FINAL SUBMITTAL

ENERGY ENGINEERING ANALYSIS PROGRAM
LIGHTING SURVEY OF SELECTED BUILDINGS

PINE BLUFF ARSENAL

PINE BLUFF, ARKANSAS

VOLUME IIE

APPENDICES

CONTRACT NO. DACA01-94-D-0038 DELIVERY ORDER NO. 0001

PREPARED FOR:

U.S. ARMY CORPS OF ENGINEERS LITTLE ROCK, ARKANSAS

PREPARED BY:

REYNOLDS, SMITH AND HILLS, INC. ENERGY SERVICES DEPARTMENT P.O. BOX 4850 JACKSONVILLE, FLORIDA 32201

PROJECT NO. 6941331001

S CETUTABLE VILLATO STAY

JUNE 1995

Carlos S. Warren, PhD, PE Project Manager

DEPARTMENT OF THE ARMY

CONSTRUCTION ENGINEERING RESEARCH LABORATORIES, CORPS OF ENGINEERS P.O. BOX 9005 CHAMPAIGN, ILLINOIS 61826-9005

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EC0	4	OCCUPANCY SENSORS
EC0	5	PHOTOCELLS
EC0	8	LED EXIT SIGNS

APPENDIX D

UTILITY RATE ANALYSIS

Bldg 63-100 Summary

			_				-		 _	
	Total	Watts	122	4,305	1,711	900				7,038
int System	Number	Fixtures	2	41	29	15				87
Replacement System	Watts/	Fixture	19	105	59	09				
	Fixture	Туре	BB	80	F8	87				Totals
	Total	Watts	384	738	552	5,289	4,814	2,304		14,081
tem	Number	Fixtures	2	က	2	43	29	24		103
Present System	Watts/	Fixture	192	246	276	123	166	96		
	Fixture	Type	œ	CS	75 45	CS	ட	-		Totals

63-100 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-100 Type: Indoor

> PRESENT Luminaire Fixture Schedule

Project name: Lighting Survey - PBA Bldg 63-100

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 14-Mar-95 UPD: 1.6W/Sq.Ft

R. William V.

V/W QTY REMARKS LAMP/BALLAST DESCRIPTION TYPE 000 15"X4'4L CEILING MT.WRAPAROUND F40CW LENS- PRISMATIC W/ GLOW ENDS STD 192 COLUMBIA WCW440-A ____1 000 F96T12/CW/WM 8'4L APER.PORCELAIN INDUSTRIAL ESB OPEN BOTTOM- NO SHIELDING 246 COLUMBIA KP496 000 8'4L APER.PORCELAIN INDUSTRIAL F96T12/CW/WM C4 OPEN BOTTOM- NO SHIELDING 276 COLUMBIA KP496 000 F96T12/CW/WM 11"X8' 2L INDUSTRIAL C5 ESB OPEN BOTTOM- NO SHIELDING 123 COLUMBIA CSR296 ____ 000 29 2X4 4L FLUSH STATIC TROFFER F40CW LENS- .125" POLARIZED PATT.12 ESB 166 COLUMBIA 4PS2*-87-244 000 24 F40CW 11"X4' 2L INDUSTRIAL L1 STD OPEN BOTTOM- NO SHIELDING 96 COLUMBIA CSR240

NOTES:

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-100 Type: Indoor

Luminaire Fixture Schedule / PROPSED

Project name: Lighting Survey - PBA Bldg 63-100

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 14-Mar-95

UPD: 0.8W/Sq.Ft

DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
4' ACRYLIC LENS WRAPAROUND SILVER TASK BEAM REFLECTOR METALOPTICS WRSN4STACLO42EP11	FO32/35K EOCT	61	2	
11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	F096/735 EOCT	105	41	
2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT	FO32/31K EOCT	000 - 59	29	
1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING COLUMBIA CSR240-PAF-EOCT	FO32/35K EOCT	000	15	
	4' ACRYLIC LENS WRAPAROUND SILVER TASK BEAM REFLECTOR METALOPTICS WRSN4STACLO42EP11 11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296 2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT 1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING	4' ACRYLIC LENS WRAPAROUND SILVER TASK BEAM REFLECTOR METALOPTICS WRSN4STACLO42EP11 11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296 2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT 1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING FO32/35K EOCT FO32/35K EOCT	4' ACRYLIC LENS WRAPAROUND SILVER TASK BEAM REFLECTOR METALOPTICS WRSN4STACLO42EP11 11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296 105 2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT 1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING FO32/35K EOCT 600 FO32/35K EOCT 59	4' ACRYLIC LENS WRAPAROUND SILVER TASK BEAM REFLECTOR METALOPTICS WRSN4STACLO42EP11 11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296 2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT 1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING FO32/35K EOCT 500 200 21 500 200 21 500 200 21 500 200 21 500 200 21 500 200 21 500 200 21 500 200 200 200 200 200 200 200 200 200

NOTES:

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-100 Type: Indoor

Project Area Summary

Project name: Lighting Survey - PBA Bldg 63-100

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 14-Mar-95 UPD: 1.2W/Sq.Ft

AREA NAME	DIMENSIONS	LUI	MINAIRES	W/SQ.FT	QTY
OFFICE 1	16x19x10Ft	(2)	Type C4 Type L1	3.1	1
OFFICE 1-N	16x19x10Ft	(2)	Type C8 Type L8	1.5	1
OMEN'S RR	12x8x10Ft	(2)	Type L1	2.0	1
WOMEN'S RR-N	12x8x10Ft	(2)	Type L8	1.3	1
OFFICE 2	12x11x10Ft	(2)	Type B	2.9	1
OFFICE 2-N	12x11x10Ft	(2)	Type BR	0.9	1
M-S DISTRIBUTN	52x51x10Ft	(29)	Type F	1.8	1
M-S DISTRIBN	52x51x10Ft	(29)	Type F8	0.6	1
HALL 1	20x5x10Ft	(4)	Type L1	3.8	1
HALL 1-N	20x5x10Ft	(1)	Type L8	0.6	1
MEN'S RR	11x14x10Ft	(2)	Type L1	1.2	1
MEN'S RR-N	11x14x10Ft	(1)	Type L8	0.4	1
CHANGE ROOM	15x14x10Ft	(4)	Type L1	1.8	1
CHANGE ROOM-N	15x14x10Ft	(4)	Type L8	1.1	1
ALL 2	7x52x10Ft	(8)	Type L1	2.1	1
HALL 2-N	7x52x10Ft	(3)	Type L8	0.5	1
CLEAN ROOM	60x40x10Ft	(3)	Type C2 Type C5	1.8	1

Page 2 63-100 Areas LEAN ROOM-N	60x40x10Ft	(27)	Type C8	1.2	1
STORAGE/BREAK	60x42x13Ft	(14)	Type C5	0.7	1
STORAGE/BREAK-N	60x42x13Ft	(12)	Type C8	0.5	1
NOTES:		*			

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63-100 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-100 Type: Indoor

Project Calculation Summary

Project name: Lighting Survey - PBA Bldg 63-100

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 14-Mar-95 UPD: 1.2W/Sq.Ft

AREA NAME	DIMENSIONS	GRID NAME	/A	/E	MAX	MIN
OFFICE 1	16x19x10Ft	Ceiling	<+>	83.3	114.5	53.4
OFFICE 1-N	16x19x10Ft	Ceiling	<+>	57.9	67.7	45.3
MOMEN'S RR	12x8x10Ft	Ceiling	<+>	36.1	43.9	28.6
OMEN'S RR-N	12x8x10Ft	Ceiling	<+>	33.2	40.2	26.5
OFFICE 2	12x11x10Ft	Ceiling	<+>	55.5	78.7	35.2
OFFICE 2-N	12x11x10Ft	Ceiling	<+>	36.2	54.2	21.6
M-S DISTRIBUTN	52x51x10Ft	Ceiling	<+>	50.9	65.3	0.0
M-S DISTRIBN	52x51x10Ft	Ceiling	<+>	30.4	38.0	0.0
HALL 1	20x5x10Ft	Ceiling	<+>	61.0	67.5	48.6
HALL 1-N	20x5x10Ft	Ceiling	<+>	15.2	26.0	6.9
MEN'S RR	11x14x10Ft	Ceiling	<+>	26.8	41.4	12.9
MEN'S RR-N	11x14x10Ft	Ceiling	<+>	12.7	20.5	6.2
CHANGE ROOM	15x14x10Ft	Ceiling	<+>	43.6	57.2	28.2
CHANGE ROOM-N	15x14x10Ft	Ceiling	<+>	40.3	52.7	28.1
HALL 2	7x52x10Ft	Ceiling	<+>	47.2	54.4	28.5
ALL 2-N	7x52x10Ft	Ceiling	<+>	16.5	23.9	6.9
CLEAN ROOM	60x40x10Ft	Ceiling	<+>	93.5	147.0	29.5
CLEAN ROOM-N	60x40x10Ft	Ceiling	<+>	70.1	95.6	33.6

P 6	age 2 3-100 Calculations "ORAGE/BREAK	60x42x13Ft	Ceiling	<+>	30.3	63.1	0.0
	STORAGE/BREAK-N	60x42x13Ft	Ceiling	<+>	25.1	62.0	0.0
	NOTES:						

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A Maria Caller Marian

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:28 5-Jan-95 PROJECT: 63-100 AREA: OFFICE 1 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

कर्म कर्म कर्म क्रिक्ट क

+ MIN=53.4 MAX=114. AUE=83.3 AUE/MIN= 1.56 MAX/MIN= 2.14

C4 $\langle 2 \rangle$ = K7983M COLUMBIA KP496, (4) F96T12/CW/WM, LLF= 0.69 L1 $\langle 4 \rangle$ = K7990 COLUMBIA CSR240, (2) F40CW, LLF= 0.68

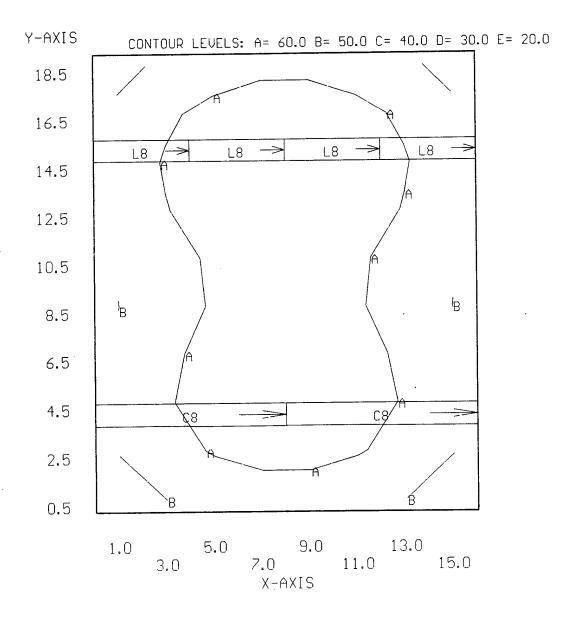
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Y-AXIS 18.5 53.4 59.0 63.0 65.7 65.7 63.0 59.0 53.4 + + + 16.5 67.5 60.0 60.0 67.5 72.5 75.0 72.5 75.0 1 1 L1 14.5 72.4 63.7 63.7 72.4 78.0 80.8 80.8 78.0 12.5 83.3 83.3 80.5 74.6 65.5 65.5 74.6 80.5 10.5 77.5 83.7 86.9 86.9 8.5 6.5 95.6 104. 107. 107. 104. 95.6 83.3 4.5 89.4 102.C4111. 114. 111.C4102. 2.5 98.3 87.2 98.3 106. 110. 110. 106. 0.5 90.9 94.6 94.6 90.9 9.0 13.0 1.0 5.0 11.0 15.0 7.0 3.0 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 13:29 14-Mar-95 PROJECT: 63-100 AREA: OFFICE 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=45.3 MAX=67.7 AUE=57.9 AUE/MIN= 1.28 MAX/MIN= 1.49

C8 $\langle 2 \rangle$ = K7993 COLUMBIA CSR296, (2) F096/735, LLF= 0.66 L8 $\langle 4 \rangle$ = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.66



2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:26 5-Jan-95 PROJECT: 63-100 AREA: WOMEN'S RR GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= Computed in accordance with IES recommendations

+ MIN=28.6 MAX=43.9 AUE=36.1 AUE.MIN= 1.26 MAX.MIN=

1.53

L1 (2) = K7990 COLUMBIA CSR240, (2) F40CW, LLF= 0.68

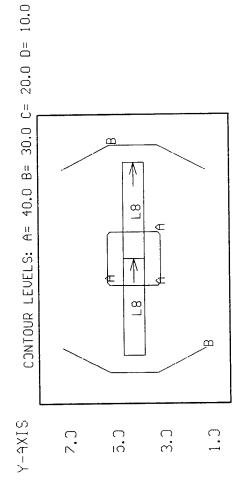
Y-AXIS

1.0 5.0 9.0 3.0 7.0 11.0 X-AXIS Alichais 4

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:34 14-Mar-95 PROJECT: 63-100 AREA: WOMEN'S RR-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.52

L8 <2> = 10331 COLUMBIA CSR240-PAF-EJCT, (2) F032/35K, L_F= 0.66



1.0 5.0 9.0 3.0 7.0 11.0 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:36 5-Jan-95 PROJECT: 63-100 AREA: OFFICE 2 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=35.2 MAX=78.7 AUE=55.5 AUE.MIN= 1.58 MAX.MIN=

B <2> = K9708 COLUMBIA WCW440-A, (4) F40CW, LLF= 0.68

Y-AXIS

35.2 45.5 + +
43.0 58.2
Ŋ
48.5 65.4
43.0 58.2
35.2 45.5
3.0

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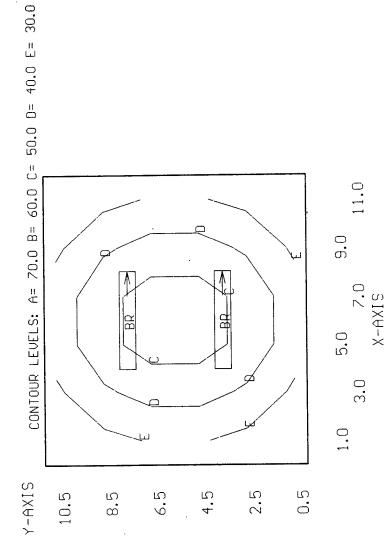
JSI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:45 14-Mar-95 PRJJECT: 63-100 AREA: OFFICE 2-N GRID: Ceiling Jalues are FC, SCALE: 1 IN= 4.0F", HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ YIN=21.6 MAX=54.2 AUE=36.2 AUE.MIN= 1.68 MAX.MIN=

2.51

Lower Carry

3R (2) = T9939 METALOPTICS WRSN4STACL042EP11, (2) F032/35K, LLF= 0.81



2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:31.5-Jan-95 PROJECT: 63-100 AREA: M-S DISTRIBUTN GRID: Ceiling Values are FC, SCALE: 1 IN= 16.0FT, HORZ GRID (V), HORZ CALC, Computed in accordance with IES recommendations

+ MIN=0.00 MAX=65.3 AVE=50.9 AUE\MIN=N\A MAX\MIN=N\A

F (29) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

2 26.4 26.7 14.15 47.3 35.3 23.4 2 27.3 27.5 45.8 45.4 36.6 24.3 8 27.2 27.3 44.5 44.4 36.8 25.1 में को को अहे को को को को को हो को मोर को में को को भी को को को को को को भो को भी को भी भी को भी भी भी भी मोर में को को को को को को मोर को मोर को को को को को को को मोर को मोर को मोर को भी को भी भी को भी भी भी भी भी भी भी में को को को को को को भी को को को को भी भी को मोर को मोर को मोर को को मोर को माम भी में को मीर को मोर को भी को मोर को भी को भी को भी भी भी भी मोर को माम माम भी نگر دیک بخت جاری دید دیگر میکندار دی بازد دختر و مختوجه بازد دید و مخترجه دید بدر صد صد صد مدر مدر مدر مدر مدر داد دیک بختر بازد دید دیگر استها بازد دید داد استها در دید دید و به دیگر کرد دید دید این در اصد مدر مدر مدر مدر 21.1 31.4 10.8 10.4 10.5 13.1 13.0 10.5 17.3 16.2 18.3 16.2 18.3 18.2 18.0 18.0 18.3 18.3 17.3 14.4 16.0 32.1 318 147 550 962 865 964 960 618 62.2 86 86 850 622 618 860 850 851 857 950 641 187 274 37 141 141 37 27 7.6 30.4 (4 T +7.3 30.8 27.1 26.0 35.2 42.6 42.8 35.6 26. 140 222 282 282 22.1 22.7 120 182 862 883 882 888 82.1 1810 18.2 828 82.7 82.6 16.7 163 84.8 18.7 18.3 18.1 14.0 12. 27.6 37.8 45.3 45.6 38.4 28. 27.7 36.2 46.1 46.4 38.7 28 and aborator and sate 1, s sin pat sat sate 1, sate 1 33.2 44.7 53.8 52.0 35.4 54.3 57.0 65.8 61.1 56.0 56.0 58.0 61.2 60.8 56.0 54.0 54.7 55.5 52.8 44.5 21.1 4.2 54.4 57.4 57.4 57.1 57.1 61.3 61.7 58.2 56.0 58.2 61.8 61.8 57.2 57.1 54.8 56.6 53.6 47.7 315 15.6 35.1 36.2 86.5 95.3 91.1 61.8 62.2 86.8 98.8 62.3 62.0 96.0 95.1 96.0 97.3 91.2 14.8 13.6 37.5 27.5 3.6 21.5 9.0 5.5 19.5 23.5

.0 5.0 10 11.0 13.0 17.0 21.0 25.0 23.0 33.0 41.0 43.0 45.0 45.0 81.0 25.0 31.0 35.0 35.0 43.0 47.0 81.0

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2.5 JSI's LITE*PRO U2.27E Foint-By-Point Numeric Ou:put 13:51 14-Mar-95 PROJECT: 63-100 AREA: M-S DISTRIB.-N GRID: Ceiling Jalues are FC, SCALE: 1 IN= 16.0FT, HORZ GRID (U), HORZ CALC, Z= Somputed in accordance with IES recommendations

AUE/MIN=N/A MAX/MIN=N/A AUE=30.4 MAX=38.0 + MIN=0.00 78 (29) = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66

CONTOUR LEVELS: A= 30.0 B= 25.0 C= 20.0 D= 15.0 E= 13.0 33 F83H E 8 8 8 18 8 8 8 <u>18</u> 8 8 ₽ 8 £8 8 8

Marin Service States

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:37 5-Jan-95 PROJECT: 63-100 AREA: HALL 1 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.39 AUE/MIN= 1.25 MAX/MIN= AUE=61.0 MAX=67.5 + MIN=48.6

L1 <4> = K7990 COLUMBIA CSR240, (2) F40CW, LLF = 0.68

Y-AXIS

Ŋ			0
53.	55.	53.	19.0
4 60.2	t.1 62.7	+ + 90.6	17.0
63.7	8.99	+	15.0
+ 64.5	£1 67.5	+ 64.9	13.0
+ + + + + + + + + + + + + + + + + + +	+ t ₁ +	+ + + + + + + + + + + + + + + + + + +	11.0 -AXIS
4+	₩ 99.8	+ 64.4	9.0 11. X-AXIS
63.7	±1 66.6	+	7.0
61.0	4 4.0	+ 19	ري م
+ 56.1	11 58.5	+	3.0
48.6	49.8	+ 6 + + 6 + + 6 + + 6 + • • • • • • • • • • • • • • • • • •	1.0
4. ح	2.5	0.5	

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USI's LITE*PRO U2.27E Point-By-Point Numeric Outout 13:58 14-Mar-95 PROJECT: 63-100 AREA: HALL 1-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CA_C, Z= 2.5 Computed in accordance with IES recommendations

3.77 2.21 MAX/MIN= AUE / MIN= AJE=15.2 MAX=26.0 + MIN=6.89

L8 <1> = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.66

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:43 5-Jan-95 PROJECT: 63-100 AREA: MEN'S RR GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=12.9 MAX=41.4 AUE=26.8 AUE/MIN= 2.08 MAX/MIN= 3.21

L1 $\langle 2 \rangle$ = K7990 COLUMBIA CSR240, $\langle 2 \rangle$ F40CW, LLF= 0.68

13.0	+ 7.9	+ 19.5	+ 19.3	+ 17.6	+ 15.0	12.9
11.0	+ 23.8	+ 26.5	+ 26.0	+ 22.9	+ 18.8	+ 15.3
9.0	⁺ 31.3	34.6	+ 33.5	+ 28.6	+ 22.7	18.2
7 . 0	+ 36.1	40.4	39.0	+ 32.8	+ 25.5	19.9
5.0	+ 37.2	+ 41.4	+ 39 . 9	+ 33 . 5	+ 25.9	+ 20.3
3.0	+ 33.3	37.3	36.1	+ 30.6	+ 24.0	+ 18.9
1.0	+ 27.5	30.2	+ 29.4	25 . 5	+ 20.4	+ 16.7
	0.5	2.5	4.5 X-A	6.5 XIS	8.5	10.5

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:00 14-Mar-95 PROJECT: 63-100 AREA: MEN'S RR GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.20 MAX=20.5 AUE=12.7 AUE/MIN= 2.05 MAX/MIN= 3.31

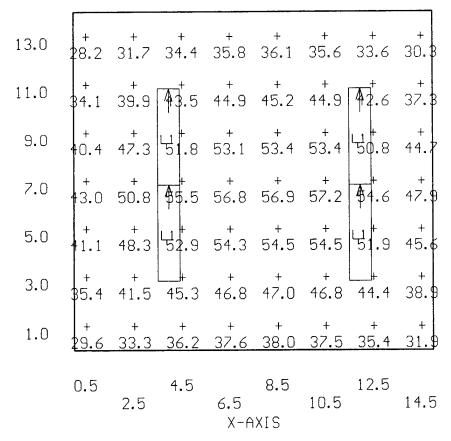
L8 $\langle 1 \rangle$ = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.66

The restricted the lateral and an individual section in

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:48 5-Jan-95 PROJECT: 63-100 AREA: CHANGE ROOM GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=28.2 MAX=57.2 AUE=43.6 AUE/MIN= 1.55 MAX/MIN= 2.03

L1 $\langle 4 \rangle$ = K7990 COLUMBIA CSR240, (2) F40CW, LLF= 0.68

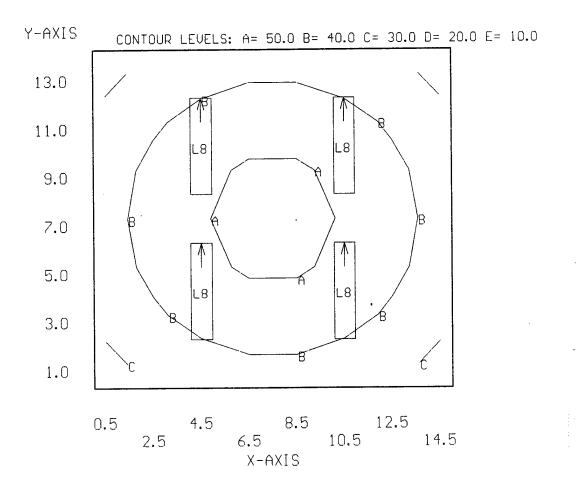


USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:05 14-Mar-95 PROJECT: 63-100 AREA: CHANGE ROOM-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

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+ MIN=28.1 MAX=52.7 AUE=40.3 AUE/MIN= 1.43 MAX/MIN= 1.88

L8 $\langle 4 \rangle$ = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.66



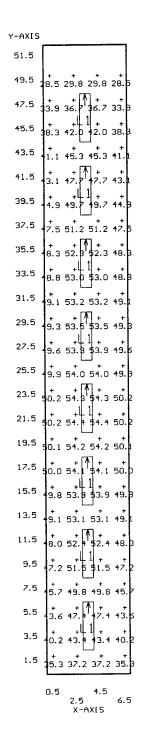
Page 1/1

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:56 5-Jan-95 PROJECT: 63-100 AREA: HALL 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=28.5 MAX=54.4 AUE=47.2 AUE/MIN= 1.66 MAX/MIN= 1.91

L1 $\langle 8 \rangle$ = K7990 COLUMBIA CSR240, (2) F40CW, LLF= 0.68



Page 1/1

USI's LITE*PRO V2.27E Point By Point Numeric Output 11:08 11 Mar 95 PROJECT: 63-100 AREA: HALL 2-N GRID: Ceiling Values are FC, SCALE: 1 IN- 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.86 MAX=23.9 AUE=16.5 AUE/MIN= 2.40 MAX/MIN= 3.48

L8 $\langle 3 \rangle$ = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.66

Y-AXIS 51.5 49.5 .86 7.66 7.66 7.8 59 9.72 9.72 9.5 45.5 2.2 12.8 12.8 12 43.5 41.5 39.5 37.5 9.0 20.9 20.9 19. 35.5 6.9 18.0 18.0 16. 5.7 16.4 16.4 15. 31.5 6.3 17.1 17.1 16. 29.5 27.5 25.5 23.5 9.6 21.6 21.6 19. 21.5 7.2 18.3 18.3 17 19.5 5.8 16.5 16.5 15. 17.5 6.1 16.9 16.9 16. 15.5 13.5 11.5 9.5 3.8 14.9 14.9 13 5.5 0.8 11.1 11.1 10 3.5 64 8.57 8.57 8.6 1.5 21 6.86 6.86 7.3 4.5 2.5 X-AXIS

2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 17:25 5-Jan-95 PROJECT: 63-100 AREA: STORAGE/BREAK GRID: Ceiling =2 Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (V), HORZ CALC, Computed in accordance with IES recommendations

+ MIN=0.00 MAX=63.1 AVE=30.3 AVE_MIN=N_A MAX_MIN=N_A

C5 <14> = K7993 COLUMBIA CSR296, (2) F96T12/CW/WM, LLF= 0.69

59.0 ÷ % ÷2 + 8 +3 ÷ 2 5.28 +2 ¥. 27.1 +8 ÷ 33.4 ÷8.8 +₫ + ğ ž.+ -ફ્રે + 6. + 5 57.0 ÷Ř 32.1 - = + 22 22 18.0 17.4 55.0 n.2 n.6 14.8 8.52 10.9 7.14 12.6 7.60 53.0 -} 3:: 3:: 3:: 17. 51.0 + 8 ÷ķ; 35,4 +# 29.6 30.2 26.3 26.5 33.4 34.3 32.0 32.8 -2 + 6 49.0 47 +₹ 27.4 43.5 57.8 63.1 57.3 42.5 25.3 40.7 54.6 558 54.2 40.0 42.1 31.4 28.2 26.8 25.5 24.2 22.8 22.3 + 89 18.8 27.8 35.3 37.8 34.2 26.1 16.3 27.9 43.8 57.6 62.5 56.5 42.0 42.0 1.8 30.1 28.2 26.8 158 152 +83 5.0 33.9 35.4 7. £.3 43.D + 5 11.6 28.9 32.5 42.6 223 21.8 20.7 41.0 38.0 ÷ 52 37.0 +22 36.3 36.5 +5 + 5.5 35.0 +17 + 88 + 8 47 33.0 32.8 36.7 ÷8 29.0 - %i - 5 23° 7,7 19.2 ÷ % ÷. 32,2 \$5.4 43.3 39.6 + +2.3 38.3 41.0 36.7 27.0 25.0 23.0 - \$2 21.0 42.5 43.5 크흡 338 347 19.0 - ki 17.0 +‡ +3 ٠, -즆 + gg + 55 ٠Ξ ۽. 15.0 ÷2 + 5 -5 38.5 • % ÷ 2 + g + g ٠. +3 +∌ +5 +₽ 426 424 13.0 40.5 • ¥ +5 3.6 11.0 +64 ٠; + 6 - 🕏 +3.8 ÷2.0 ÷ % 31.7 27.2 + 4 - 략 9.0 + 55 33. + 5 25.7 26.9 27.4 +23 + 5 7.0 21.9 22.6 36.3 -£. 33. 38. 29.7 31.4 28.5 31.0 38.5 41.3 36.6 36.3 +52 *‡; 38.6 11.4 1, + 12 ŧ. ÷ 🖫 + === 42. 42. +‡ -\$ + 클 ÷Ę ¥.0 3.4 36.0 ¥.3 ÷ 2 37.7 37.1 36.5 35.+ + % 32.5 27.7 32.6 0.71

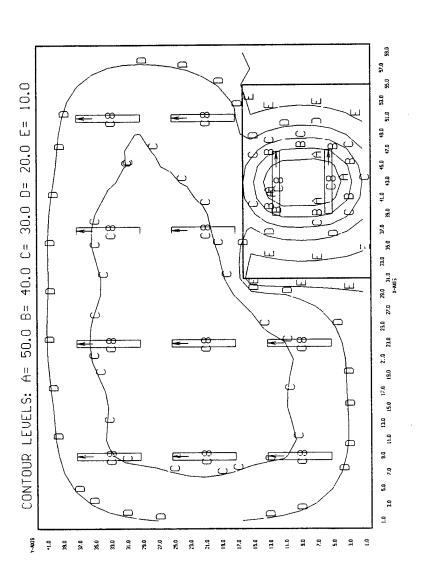
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2 = 2.5USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:26 14-Mar-95 PROJECT: 63-100 AREA: STO2A3E/BREAK-N GRID: Seiling Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (V), HÖRZ CALC, Computed in accordance with IES recommendations

+ MIN=0.00 MAX=62.0 AUE=25.1 ¢UE.MIN=N.A MAX.MIN=N.A

3.42

C8 <12> = K7993 COLUMBIA CSR296, (2) F096/735, L_F= 0.66



 $X_{i,j}$

2.5 16:29 5-Jan-95 Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (U), HORZ CALC, Z= USI's LITE*PRO U2.27E Point-By-Point Numeric Output PROJECT: 63-100 AREA: CLEAN ROOM GRID: Ceiling Computed in accordance with IES recommendations 3.17 MAX/MIN= AUE/MIN= AUE=93.5 MAX=147. + MIN=29.5

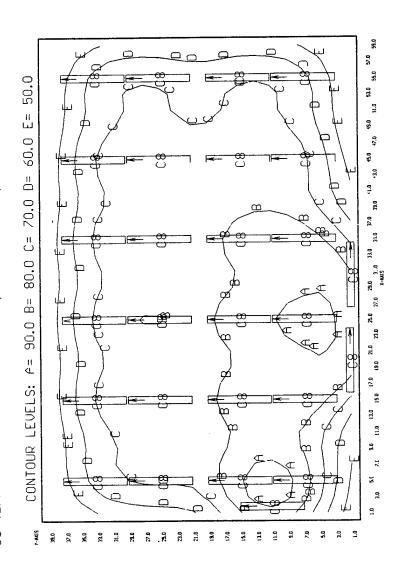
C2 <3> = K7983M COLUMBIA KP496, (4) F96T12/CW/WM, LLF= 0.67 C5 <29> = K7993 COLUMBIA CSR296, (2) F96T12/CW/WM, LLF= 0.69

57.9 47.8 +2 +2 + 4 45.5 47.2 48.2 + å 68.2 57.3 4 71.5 59.4 71.4 59.3 70.6 58.8 + 85 + 17 + 65 - 2. ÷2. £.03 +# ÷89.0 +8 +% +% 53.0 76.8 73.3 86.4 88.8 7.88 8.7 51.0 +86 89.7 85.6 94.7 80.9 + 63 + 8 + 23 49.0 £3. + 5 + yri 76.5 +27 -10 - % ÷ 6. + = +≅ 110. 112. 31.0 x-axis 131. 118. 14 rie ring 174 His +≅ 25.0 29.0 + 25 23.0 + % .g .g 21.0 -≓ 17.0 + 2 + ≝ + <u>6</u> + ឌ៊ + 8g + ₽. - 5 + 88 88 +₫ +∄ 3.0 + # 56.7 65.8 (25.5 76.9 7 61.0 71.4 93. 84.1 8 + 12 + ∄ + 89 + K +≵ ÷82÷ 87.6 93.5 36.5 64.0 7.5 84.5 720 027 110 + <u>15</u> 51.0 58.0 + 63.1 80.1 64.0 75.1 94.6 102. + 15 <u>-호</u>글-జ 23.0 19.0 15.0

2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:42 14-Mar-95 PROJECT: 63-100 AREA: CLEAN ROOM-N 67ID: Ceiling Ualues are FC, SCALE: : IN= 12.0FT, HORZ GRID (U), HORZ CALC, Computed in accordance with IES recommendations 2.84 2.09 MAX/MIN= AUE/MIN= AUE=70.1 MAX=95.6 + MIN=33.6

 $e = e C \left(\frac{1}{2} \sum_{i=1}^{d} \frac{1}{2} \sum_{i=$

C8 <27> = K7993 COLUMBIA CSR296, (2) F096/735, LLF= 0.66



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Bldg 63-110 Summary

	Total	Watts	413	945	516	3,186		5,060
nt System	Number	Fixtures	7	6	9	54		9/
Replacement System		Fixture	69	105	98	29		
	Fixture	Type	A8	83	F3	F8		Totals
				ما	*	ما		
	Total	Watts	581	342	2,844	10,292		14,059
tem	Number	Fixtures	7	2	6	62		80
Present System	Watts/	Fixture	83	171	316	166		
_	Fixture	Type	A1	B1	93	ட		Totals

63-110 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-110 Type: Indoor

Luminaire Fixture Schedule / PRESENT

Project name: Lighting Survey - Pine Bluff Arsenal

Prepared for: Corps of Engineers

Prepared by: C. Warren

| Project #6941331 | Date: 18-Jan-95 | UPD: 1.4W/Sq.Ft

V/W QTY REMARKS LAMP/BALLAST DESCRIPTION TYPE **** 7 000 15"X4'2L CEILING MT.WRAPAROUND F40CW A1 LENS- PRISMATIC W/ GLOW ENDS ESB 83 COLUMBIA WCW240-A 000 F40CW 15"X4'4L CEILING MT.WRAPAROUND B1 ESB LENS- PRISMATIC W/ GLOW ENDS 171 COLUMBIA WCW440-A 000 F96T12/CW 8'4L APER.PORCELAIN INDUSTRIAL C6 OPEN BOTTOM- NO SHIELDING ESB 316 COLUMBIA KP496 ¹ 62 F40CW 000 2X4 4L FLUSH STATIC TROFFER LENS- .125" POLARIZED PATT.12 ESB 166 COLUMBIA 4PS2*-87-244

NOTES:

63-110 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-110 Type: Indoor

Luminaire Fixture Schedule /PROPOSED

Project name: Lighting Survey - Pine Bluff Arsenal

Prepared for: Corps of Engineers Prepared by: C. Warren

Project #6941331
Date: 14-Mar-95 UPD: 0.5W/Sq.Ft

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-	TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
	A8	15"X4'2L CEILING MT.WRAPAROUND LENS- PRISMATIC W/ GLOW ENDS COLUMBIA WCW240-A	FO32/35K ESB	000 - 59	7	
	C8	11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	F096/735 EOCT	105	9	
	F3	2X4 3L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-243-3EOCT	F032/31K EOCT	86	6	
	F8	2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT	FO32/31K EOCT	000 - 59	54	

NOTES:

63-110 Areas

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-110 Type: Indoor

Project Area Summary

Project name: Lighting Survey - Pine Bluff Arsenal Project #6941331

Prepared for: Corps of Engineers

Prepared by: C. Warren

Date: 14-Mar-95 UPD: 1.0W/Sq.Ft

AREA NAME	DIMENSIONS	LUMINAIRES	W/SQ.FT	QTY	
LAYOUT 1	82x64x9Ft	(3) Type A1 (45) Type F	1.5	1	
LAYOUT 1-N	82x64x9Ft	(3) Type A8 (45) Type F8	0.5	1	
YOUT 2	43x64x11Ft	(9) Type C6	1.0	1	
LAYOUT 2-N	43x64x11Ft	(9) Type C8	0.3	1	
BONDING	28x18x9Ft	(6) Type F	2.0	1	
BONDING-N	28x18x9Ft	(6) Type F3	1.0	1	
STORAGE A	15x11x9Ft	(2) Type B1	2.1	1	
STORAGE A-N	15x11x9Ft	(1) Type A8	0.4	1	
SMOKE BREAK	13x13x8Ft	(3) Type F	3.1	1	
SMOKE BREAK-N	13x13x8Ft	(2) Type F8	0.7	1	
BREAK ROOM	15x20x8Ft	(3) Type F	1.7	1	
BREAK ROOM-N	15x20x8Ft	(2) Type F8	0.4	1	
RESTROOMS	10x10x8Ft	(1) Type A1	0.8	2	
RESTROOMS-N	10x10x8Ft	(1) Type A8	0.6	2	
STORAGE B	7x12x8Ft	(2) Type A1	2.0	1	
rorage b-N	7x12x8Ft	(1) Type A8	0.7	1	
OFFICE	8x12x8Ft	(2) Type F	3.5	1	
OFFICE-N	8x12x8Ft	(2) Type F8	1.2	1	

Page 2 63-110 Areas

HALLWAYS	19x27x8Ft	(3)	Туре	F 	1.0	1
HALLWAYS-N	19x27x8Ft	(3)	Type :	F8	0.3	1

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NOTES:

63-110 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-110 Type: Indoor

Project Calculation Summary

Project name: Lighting Survey - Pine Bluff Arsenal
Prepared for: Corps of Engineers
Prepared by: C. Warren

Project #6941331
Date: 14-Mar-95
UPD: 1.0W/Sq.Ft

Prepared for: Corps of Engineers
Prepared by: C. Warren

AREA NAME	DIMENSIONS	GRID NAME	AVE		MAX	MIN
LAYOUT 1	82x64x9Ft	Ceiling	<+>	45.3	68.8	0.0
LAYOUT 1-N	82x64x9Ft	Ceiling	<+>	31.0	43.8	0.0
TAYOUT 2	43x64x11Ft	Ceiling	<+>	42.0	79.8	0.0
AYOUT 2-N	43x64x11Ft	Ceiling	<+>	22.1	40.5	0.0
BONDING	28x18x9Ft	Ceiling	<+>	50.6	63.6	37.8
BONDING-N	28x18x9Ft	Ceiling	<+>	47.9	58.2	35.7
STORAGE A	15x11x9Ft	Ceiling	<+>	59.4	105.9	26.2
STORAGE A-N	15x11x9Ft	Ceiling	<+>	15.1	28.4	6.8
SMOKE BREAK	13x13x8Ft	Ceiling	<+>	74.2	103.5	21.0
SMOKE BREAK-N	13x13x8Ft	Ceiling	<+>	37.0	60.1	17.3
BREAK ROOM	15x20x8Ft	Ceiling	<+>	45.4	80.8	4.7
BREAK ROOM-N	15x20x8Ft	Ceiling	<+>	21.8	57.5	3.0
RESTROOMS	10x10x8Ft	Ceiling	<+>	20.6	37.2	7.3
RESTROOMS-N	10x10x8Ft	Ceiling	<+>	18.4	33.2	6.5
STORAGE B	7x12x8Ft	Ceiling	<+>	42.1	52.4	32.4
TORAGE B-N	7x12x8Ft	Ceiling	<+>	20.5	31.6	11.4
OFFICE	8x12x8Ft	Ceiling	<+>	71.8	90.0	53.3
OFFICE-N	8x12x8Ft	Ceiling	<+>	46.0	59.7	33.9

Page 2 63-110 Calculations LLWAYS	19x27x8Ft	Ceiling	<+>	14.7	77.4	0.0
HALLWAYS-N	19x27x8Ft	Ceiling	<+>	9.3	48.4	0.0
NOTES:						

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 12:05 18-Jan-95 PROJECT: 63-110 AREA: LAYOUT 1 GRID: Ceiling Values are FC, SCALE: 1 IN= 16.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

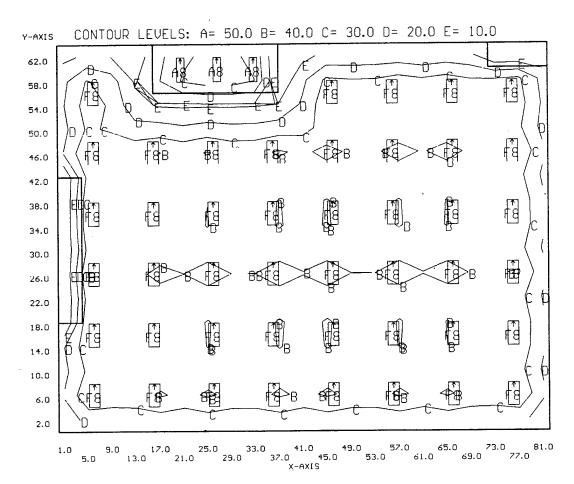
+ MIN=0.00 MAX=68.8 AUE=45.3 AUE/MIN=N/A MAX/MIN=N/A

A1 $\langle 3 \rangle$ = K9604 COLUMBIA WCW240-A, $\langle 2 \rangle$ F40CW, LLF= 0.68 F $\langle 45 \rangle$ = 9753 COLUMBIA 4PS2*-87-244, $\langle 4 \rangle$ F40CW, LLF= 0.68

Y-AXIS 1.5 16.9 13.9 6.75 | 8.0 29.2 33.7 33.7 38 6 0.00 10.3 18.1 18.3 18.8 20.4 17.9 20.2 17.3 0.00 0.00 0.0 58.0 54.0 .4 40.9 35.1 <u>37</u>.0 30.4 36<u>.7</u> 33.1 33.6 <u>38</u>.6 36.9 50<u>.2</u> 46.4 46.8 <u>52</u>.2 43.5 52<u>.1</u> 46.5 45.6 46.9 25.8 50.0 53.1 53.1 62.5 48.5 63.0 53.9 54.2 64.0 50.7 64.2 57.3 57.5 64.9 52.5 64.7 57.0 56.0 61.7 30. 46.0 1.00 17.0 13.8 15.0 51.4 13.4 52.4 17.5 17.6 53.0 11.7 53.7 18.6 18.7 53.9 15.1 53.7 18.0 17.0 18.9 27. 42.0 4 2 49.7 51.0 A 5 49.5 61 5 54.5 54.7 A 50.6 62 55.1 55.1 A 50.6 62 5 54.3 53.3 A 53.3 38.0 .00 \$6.0 49.7 51.3 60.9 50.1 62.4 55.1 55.2 62.9 51.0 63.0 55.4 55.4 62.9 50.8 62.5 54.4 53.4 57.6 30. 34.0 8<u>.3</u> 44.2 45.7 <u>53</u>.0 45.3 54<u>.6</u> 49.5 49.6 <u>55</u>.0 46.2 55<u>.0</u> 49.7 49.7 <u>54</u>.8 45.9 54<u>.4</u> 48.7 47.7 <u>49</u>.6 27. 30.0 26.0 22.0 .00 5 7 52.2 53.2 [2]. 8 50.5 6 2 55.3 55.4 [2]. 1 51.1 6 3 55.5 55.3 [2]. 8 50.7 6 2 54.3 53.2 [2]. 4 29. 18.0 7.5 55.9 51.8 53.1 61.6 50.2 62.3 54.9 55.1 62.7 50.7 62.7 55.1 54.9 62.4 50.3 62.0 53.9 52.9 57.1 29. 14.0 .3 45.5 46.7 52.6 44.3 53.3 48.2 48.3 53.6 44.8 53.6 48.3 48.2 53.3 44.4 52.9 47.2 46.2 48.3 26. 10.0 49.9 64 3 55.2 55.3 64.7 50.4 64 2 55.3 55.2 64.3 49.9 64 0 54.3 53.4 59.7 29. 39.0 35.4 35.5 39.3 33.0 39.3 35.5 35.4 39.0 32.5 38.7 34.6 34.0 35.8 9.0 17.0 25.0 33.0 41.0 49.0 57.0 65.0 73.0 81.0 5.0 13.0 21.0 29.0 37.0 45.0 53.0 61.0 69.0 77.0 X-AXIS USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:19 14-Mar-95 PROJECT: 63-110 AREA: LAYOUT 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 16.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=43.8 AUE=31.0 AUE/MIN=N/A MAX/MIN=N/A

A8 $\langle 3 \rangle$ = K9604 COLUMBIA WCW240-A, $\langle 2 \rangle$ F032/35K, LLF= 0.70 F8 $\langle 45 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, $\langle 2 \rangle$ F032/31K, LLF= 0.74



USI's LITE*PRO U2.27E Point-By-Point Numeric Output 12:57 18-Jan-95 PROJECT: 63-110 AREA: LAYOUT 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=79.8 AUE=42.0 AUE/MIN=N/A MAX/MIN=N/A

C6 (9) = K7983M COLUMBIA KP496, (4) F96T12/CW, LLF= 0.67

14.0 15.3 14.8 18.2 19.5 20.3 20.9 21.2 21.6 21.9 22.2 22.1 21.9 21.6 21.3 20.8 20.2 19.1 17.9 16.4 15.1 63.0 16.3 18.5 21.0 23.5 25.3 26.6 27.3 27.7 28.2 28.7 28.0 28.0 28.6 28.1 27.7 27.2 26.3 24.8 22.6 20.2 17.9 61.0 18.0 22.7 26.9 30.9 33.9 35.5 36.1 36.5 37.2 38.1 38.7 38.5 37.8 36.9 36.5 36.2 36.1 32.8 29.3 25.2 21.3 22.0 27.6 34.1 40.3 44.7 46.7 46.9 47.0 47.9 49.6 50.7 50.3 48.8 47.4 47.1 47.2 46.3 43.0 37.6 31.1 25.1 24.9 32.6 42.0 51.0 57.2 59.3 58.7 58.1 59.4 62.2 64.1 63.4 68.8 58.6 58.4 59.4 59.0 54.7 46.9 37.5 78.9
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 27.6 36.1 46.3 56.0 62.7 65.3 65.0 64.5 66.0 69.0 71.0 70.3 67.5 65.1 64.8 65.6 64.8 60.0 51.5 41.3 32.0 26.9 20.9 41.3 42.6 55.1 57.8 52.5 58.9 60.1 62.0 62.3 62.8 61.1 59.5 58.9 58.6 57.0 52.9 46.2 38.2 30.6 26.5 22.7 39.5 45.9 50.8 53.6 54.8 55.6 56.7 58.1 58.9 58.7 57.5 56.2 56.1 54.6 52.7 48.8 43.1 36.1 29.9 26.9 23.0 29.9 46.7 51.2 54.0 55.2 56.0 57.1 56.5 59.1 52.1 57.9 56.6 55.8 55.0 53.1 49.2 43.5 36.8 30.4 28.1 25.0 43.0 50.6 56.2 59.0 59.7 60.1 61.4 63.4 64.6 64.2 62.4 60.8 60.1 59.8 58.2 54.0 47.3 39.3 31.9 29.5 37.9 48.1 57.9 64.8 67.4 67.2 66.8 68.4 71.4 73.4 72.7 69.9 67.4 67.1 67.8 66.9 62.1 53.5 49.3 33.9 35.0 30.3 40.0 51.9 63.3 71.0 73.6 73.6 73.6 73.5 77.4 79.8 79.9 75.3 72.3 72.1 73.7 73.3 68.0 58.1 46.1 26.3 29.5 38.0 48.2 58.0 64.3 67.5 67.3 66.3 68.5 71.5 73.6 72.8 73.0 67.5 67.1 67.9 67.0 62.1 53.6 43.3 34.0 28.1 25.0 43.0 50.6 56.2 53.0 53.7 60.1 61.4 63.4 64.6 64.2 67.4 60.7 60.1 53.8 56.2 54.0 47.3 23.4 37.0 27.1 33.1 39.8 46.1 51.0 53.8 55.1 55.9 57.0 58.4 59.2 59.0 57.8 56.5 55.6 54.8 52.9 49.1 47.5 36.9 30.6 29.0 26.8 22.7 39.3 45.6 50.5 53.3 54.6 95.3 56.5 57.9 58.7 58.4 57.3 55.3 55.1 54.3 52.4 48.6 43.0 36.5 30.2 27.0 23.7 41.6 49.1 54.6 57.3 58.1 58.5 59.8 61.7 62.9 62.5 60.8 59.1 58.1 58.5 52.4 45.7 38.0 30.8 27.4 35.5 45.6 55.2 62.1 64.7 64.4 64.1 65.6 68.7 70.6 69.9 67.1 64.6 64.2 64.9 64.0 59.3 50.8 40.7 31.7 21.0 25.0 34.5 46.2 57.4 65.0 67.4 66.4 66.5 67.3 71.1 73.5 72.6 69.0 65.9 65.7 67.2 66.8 61.7 52.0 40.2 78.5 19.0 72.6 30.7 40.4 49.6 56.0 58.5 58.2 57.8 59.5 62.5 61.4 61.6 60.9 58.3 57.7 58.4 57.7 53.2 45.2 36.5 26.4 19.4 25.3 32.1 38.6 43.2 45.7 46.5 47.0 48.4 50.3 51.4 50.9 49.1 47.3 46.3 45.9 44.6 41.2 36.5 28.8 27.4 15.0 16.2 20.1 24.5 28.7 32.0 34.2 36.0 37.6 38.7 39.7 40.3 40.2 38.2 37.6 35.6 34.4 33.1 30.5 26.5 22.5 18.3 13.0 112 156 182 207 22.7 24.1 2 6 0.00 0.00 0.00 0.00 0.00 0.00 252 24.6 23.7 22.0 19.8 17.7 14.7 11.0 8.71 9.37 10.0 10.7 10.4 8.97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8.39 11.0 11.8 11.4 10.9 10.2 9.51 5.0 \$83 \$67 \$53 \$35 \$35 \$47 \$73 apo ano ano ano ano ano ano ano ano ano \$151 \$34 \$81 \$23 \$27 \$72 \$33

 $(x_{\mu}, x_{\mu}) = \frac{1}{\mu} \left((x_{\mu}^{\mu} - x_{\mu})^{\mu} + (x_{\mu}^{\mu} - x_{\mu})^{\mu} \right) + (x_{\mu}^{\mu} - x_{\mu})^{\mu}$

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:25 14-Mar-95 PROJECT: 63-110 AREA: LAYOUT 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=40.5 AUE=22.1 AUE/MIN=N/A MAX/MIN=N/A

C8 (9) = K7993 COLUMBIA CSR296, (2) F096/735, LLF = 0.69

CONTOUR LEVELS: A= 50.0 B= 40.0 C= 30.0 D= 20.0 E= 10.0 Y DXIS 63.0 61.0 59.0 57.0 55.0 51.0 17.0 45.0 13.0 41.0 37.0 29.0 27.0 23.0 21.0 19.0 17.0 15.0 13.0 11.0 9.0 7.0 5.0 3.0

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:04 18-Jan-95 PROJECT: 63-110 AREA: BONDING GRID: Ceiling 2.5 Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= Computed in accordance with IES recommendations 1.68 1.34 MAX/MIN= AUE/MIN= AUE=50.6 MAX=63.6 + MIN=37.8

 $F \langle 6 \rangle = 9753 \text{ COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68}$

1.0 5.0 9.0 13.0 17.0 21.0 25.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 x-AXIS

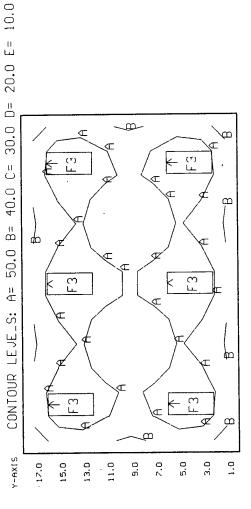
 $\lambda_{\lambda} \cdot (\lambda^{(n)}) =$

USI's LITE*PRO U2.27E Point-By-Point Numeric Jutput 15:35 14-Mar-95 PROJECT: 63-110 AREA: BONDING-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HJRZ GRID $(\dot{\mathrm{U}})$, HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=35.7 YAX=58.2 AUE=47.9 AUE/MIN= 1.34 MAX/MIN=

1.63

F3 $\langle 6 \rangle$ = A972C COLUMBIA T84PS2*-84-243-3EOCT, (3) F032/31K, LLF= 0.70



1.0 5.0 9.0 13.0 17.0 21.0 25.0 27.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 x-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:12 18-Jan-95 PROJECT: 63-110 AREA: STORAGE A GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

4.04 2.27 MAX/MIN= AUE/MIN= AUE=59.4 MAX = 106.+ MIN=26.2

B1 (2) = K9708 COLUMBIA WCW440-A, (4) F40CW, LLF= 0.68

Y-AXIS

					1
+ 26.2	31.8	35.3	32.9	27.5	
+ & + & +	55.5	+ 61.4	57.6	+ 46.2	
+ 63.4	₩ 6.9	91.5	8,98	68 + 58 +	
73.0 63.4	97.6	+ 106.	101	79.1	
63.4	83.8	91.3	86.6	+ 68.3	
+ 43.3	55.4	+ 61.3	+ 52.4	+ 46.0	
26.2	31.7	35.2	32.7	+ 27.4	
9°.2	7.5	ıÜ	ហ	ري ري	_
6	~	വ	က်	\leftarrow	

1.5 5.5 9.5 13.5 ×-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:38 14-Mar-95 PROJECT: 63-110 AREA: STORAGE A-N 3RID: Ceiling Ualues are FC, SCALE: 1N= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

4.17 2.21 MAX/MIN= AUE/MIN= AUE = 15.1MAX=28.4 + MIN=6.82

A8 <1> = K9604 COLUMBIA WCW240-A, (2) F032/35K, LLF= 0.70

Y-AXIS

+	8,86	4,9.47	8° 88	7.18
+ 11.0	+ + 1	16.1	+ 15.0	+ 11.4
ຸກ ກຸ	+21.6	4.	+ 22.1	15.9
+ + + 17.0 15.3	+ 5	AE 28.4	+ 25.4	+17.8
+ 12		24.1	+ 21.8	15.8
+	14.5	15.8	+ 14.7	11.2
+ 6.82	8 + 65	+ 9.24	8.78	7.03
ເດ ຫ້	. 10	10	10°	1.0

1.5 5.5 9.5 13.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 13:18 18-Jan-95 PROJECT: 63-110 AREA: SMOKE BREAK GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=21.0 MAX=104. AUE=74.2 AUE/MIN= 3.54 MAX/MIN= 4.93

F (3) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

11.5	80.6 92.6 85.3 70.9 55.5 39.8
9.5	86.5 103. 103. 95.4 80.7 57.5
7 . 5	+ + + + + + + + + + + + + + + + + + +
5.5	82.3 96.8 95.2 85.9 71.3 50.8
3.5	82.4 94.0 82.6 62.9 46.4 33.1
1.5	+ + + + + + + + + + + + + + + + + + +
	1.5 5.5 9.5
	3.5 7.5 11.5 X-AXIS

 $(i_{Y}C_{i}^{2})^{2} = (i_{Y}C_{i}^{2})^{2} + (i_{Y}C_{i}^{2})^{2}$

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:41 14-Mar-95 PROJECT: 63-110 AREA: SMOKE BREAK-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

AUE/MIN= 2.14 MAX/MIN= 3.47 MAX = 60.1AUE=37.0 + MIN=17.3

F8 $\langle 2 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.74

11.5	+ 18.5	+ 21.9	+ 24.0	+ 23.6	+ 21.2	+ 17.3
9.5	1	- A			37.6	,
7.5	+ 44.0	71; 55.7	60.1	60.0	53.3	+ 40.6
5.5	+ 44.0L	+ 55.7	60.1	+ 60.0	+ 53.3	+ 40.6
3.5	+ 32.1	+ 39.1	+ 43.4	+ 42.6	+ 37.6	* 30.0
1.5	18.5	21.9	24.0	23.6	21.2	17.3
	1.5	2.5	5.5	7 5	9.5	11 5

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 13:32 18-Jan-95 PROJECT: 63-110 AREA: BREAK ROOM GRID: Ceiling Values are FC, SCALE: I IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=4.74 MAX=80.8 AUE=45.4 AUE/MIN= 9.58 MAX/MIN= 17.06

 $F \langle 3 \rangle = 9753$ COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

and Markey and the

Y-AXIS	
19.0	+ + + + + + + + + + + + + + + + + + +
17.0	53.0 71.5 69.3 50.5 30.3 10.4 9.00
15.0	+ + + + + + + + + 55.2 75.7 76.7 62.0 47.5 24.6 17.5
13.0	+ + + + + + + + + + + + + + + + + + +
11.0	33.9 45.7 57.9 72.3 80.8 68.8 43.6
9.0	38.1 51.5 61.7 70.7 74.7 63.0 40.7
7.0	50.9 69.1 72.4 64.4 54.7 42.6 28.5
5.0	+ + F + + + + + + + + 55.9 75.9 73.9 54.4 36.2 24.8 17.2
3.0	+ + + + + + + + + + + + + + + + + + +
1.0	+ + + + + + + + + + + + + + + + + + +
	1.5 5.5 9.5 13.5 3.5 7.5 11.5 X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:44 14-Mar-95 PROJECT: 63-110 AREA: BREAK ROOM-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=2.96 MAX=57.5 AUE=21.8 AUE/MIN= 7.35 MAX/MIN= 19.39

F8 $\langle 2 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.74

Y-	ΑXΙ	S
----	-----	---

1 11/11/5	
19.0	+ + + + + + + + + 4.05 4.34 4.85 5.16 3.35 2.96 3.08
17.0	6.61 8.25 9.25 9.57 6.26 6.37 5.51
15.0	+ + + + + + + + + + + + + + + + + + +
13.0	23.4 32.4 38.4 41.1 38.4 32.0 23.0
11.0	+ + /\ + + + /\ + + 32.0 46.0 _{F8} 55.9 57.4 55.9 _{F8} 45.8 31.8
9.0	32.0 46 <u>.0 56</u> .0 57.5 55 <u>.9 45</u> .9 31.9
7.0	+ + + + + + + + + + + + + + + + + + +
5.0	+ + + + + + + + + + + + 13.0 17.7 20.3 21.8 20.3 17.7 13.0
3.0	+ + + + + + + + + + + + + + + + + + +
1.0	+ + + + + + + + + 4.17 4.51 5.12 5.56 5.12 4.50 4.16
	. 1.5 5.5 9.5 13.5 3.5 7.5 11.5

1.5 5.5 9.5 13.5 3.5 7.5 11.5 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:37 18-Jan-95 PROJECT: 63-110 AREA: RESTROOMS GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

5.12

A1 <2> = K9604 COLUMBIA MCW240-A, (2) F40CW, LLF= 0.68

Y-AXIS

2. 在新型的高度的通過數學的可以可以不可以

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:46 14-Mar-95 PROJECT: 63-110 AREA: RESTROOMS-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.48 MAX=33.2 AUE=18.4 AUE/MIN= 2.84 MAX/MIN= 5.12

A8 <2> = K9604 COLUMBIA WCW240-A, (2) F032/35K, LLF= 0.70

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 13:42 18-Jan-95 PROJECT: 63-110 AREA: STORAGE B GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

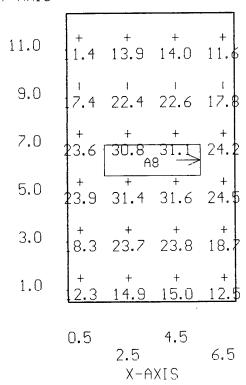
+ MIN=32.4 MAX=52.4 AUE=42.1 AUE/MIN= 1.30 MAX/MIN= 1.62

A1 $\langle 2 \rangle$ = K9604 COLUMBIA WCW240-A, $\langle 2 \rangle$ F40CW, LLF= 0.68

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:48 14-Mar-95 PROJECT: 63-110 AREA: STORAGE B-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=11.4 MAX=31.6 AUE=20.5 AUE/MIN= 1.79 MAX/MIN= 2.77

A8 $\langle 1 \rangle$ = K9604 COLUMBIA WCW240-A, $\langle 2 \rangle$ F032/35K, LLF= 0.70



USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:46 18-Jan-95 PROJECT: 63-110 AREA: OFFICE GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=53.3 MAX=90.0 AUE=71.8 AUE/MIN= 1.35 MAX/MIN= 1.69

 $F \langle 2 \rangle = 9753$ COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:49 14-Mar-95 PROJECT: 63-110 AREA: OFFICE-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=33.9 MAX=59.7 AUE=46.0 AUE/MIN= 1.36 MAX/MIN= 1.76

F8 $\langle 2 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.74

·如"是成绩基础对的数字都是公司。

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 13:56 18-Jan-95 PROJECT: 63-110 AREA: HALLWAYS GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.02 MAX=77.4 AUE=14.7 AUE/MIN= 743.00 MAX/MIN=3917.54

F(3) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF = 0.68

Y-AXIS 25.5 65.2 67.2 0.02 0.02 0.02 0.02 0.02 0.02 0.02 72.4 71.3 **0.**02 0.03 0.03 0.03 0.03 0.03 0.02 23.5 21.5 19.5 16.1 15.0 0.D7 0.08 0.08 0.09 0.09 0.08 0.07 17.5 11.2 10.7 0.08 0.10 0.11 0.12 0.13 0.11 0.09 15.5 11.5 9.5 | TEB. 7 67.3 | 0.17 0.19 0.23 0.25 0.26 0.24 0.19 7.5 73.6 72.4 0.16 0.18 0.21 0.23 0.23 0.22 0.18 5.5 55.1 53.4 25.6 11.9 20.8 39.4 6|1.1 70.9 5|5.2 3.5 31.8 30.1 24.1 17.1 23.6 44.4 69.4 77.4 58.9

1.5 5.5 9.5 13.5 17.5 3.5 7.5 11.5 15.5 X-AXIS USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:51 14-Mar-95 PROJECT: 63-110 AREA: HALLWAYS-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.01 MAX=48.4 AUE=9.33 AUE/MIN= 749.70 MAX/MIN=3890.92

F8 $\langle 3 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.74

Y-AXIS 141.1 40.5 0.01 0.01 0.01 0.01 0.01 0.01 0.01 25.5 23.5 35.3 34.7 0.02 0.02 0.03 0.03 0.03 0.02 0.02 21.5 22.0 21.0 0.03 0.03 0.04 0.04 0.04 0.04 0.03 19.5 8.96 8.30 0.04 0.05 0.05 0.06 0.06 0.05 0.04 17.5 15.5 6.47 6.30 0.06 0.08 0.09 0.10 0.10 0.09 0.08 13.5 14.7 15.2 0.09 0.10 0.11 0.13 0.13 0.12 0.10 11.5 9.5 7.5 5.5 3.5 35.5 34.4 16.6 7.10 13.5 25.5 40.7 14.8 35.3 22.0 20.8 15.5 10.1 15.2 28.4 43.5 48.4 3/.1 5.5 9.5 13.5 17.5 3.5 7.5 11.5 15.5 X-AXIS

Bldg 63-120 Summary

	Fixture	Type	A8	R	F8	완	87	>		Totals
1										
	Total	Watts	288	384	966	1,580	96	6,720	150	10,214
tem	Number	Fixtures	3	2	9	10	1	32	2	99
Present System	Watts/	Fixture	96	192	166	158	96	210	75	
	Fixture	Type	V	В	L	도	-	>	X5	Totals

	Total	Watts	295	46	295	1,050	09	6,720	8,466
int System	Number	Fixtures	2	2	2	10	1	32	55
Replacement System	Watts/	Fixture	59	23	29	105	09	210	
	Fixture	Type	A8	R	F8	완	R9	>	Totals

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Type: Indoor Filename: 63-120

Luminaire Fixture Schedule / PRESENT

Project name: PBA Lighting Survey - Bldg 63-120

Prepared for: Corps of Engineers Prepared by: C. Warren

Project #6941331 Date: 18-Jan-95 UPD: 0.9W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
A	15"X4'2L CEILING MT.WRAPAROUND LENS- PRISMATIC W/ GLOW ENDS COLUMBIA WCW240-A	F40CW STD	96	V 3	
В	15"X4'4L CEILING MT.WRAPAROUND LENS- PRISMATIC W/ GLOW ENDS COLUMBIA WCW440-A	F40CW STD	000 - 192	2	
F	2X4 4L FLUSH STATIC TROFFER LENS125" POLARIZED PATT.12 COLUMBIA 4PS2*-87-244	F40CW ESB	000 - 166	6	
H1	11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	F96T12/CW ESB	000 - 158	10	
L1	11"X4' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR240	F40CW STD	000 - 96	1	
v	7"RECESS ROUND DOWNLIGHT, WIDE OPEN-CLR.ALZAK REFL. (20DEG CO) MOLDCAST C-2729	HR175RDXFL39	000 - 210	32	
X5	6" RECESSED ROUND SHOWER LIGHT LENS- DROP OPAL W/ WIDE TRIM PRESCOLITE PBX-TL30	75A19/IF NA	000 - 75	2	

NOTES:

63-120 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-120 Type: Indoor

Luminaire Fixture Schedule / PROPOSED

Project name: PBA Lighting Survey - Bldg 63-120

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331

Date: 14-Mar-95 UPD: 0.8W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
A8	15"X4'2L CEILING MT.WRAPAROUND LENS- PRISMATIC W/ GLOW ENDS COLUMBIA WCW240-A	FO32/35K EOCT	000 - 59	5	
SF.	8"1L(VERT) RECESS RND.DOWNLITE OPEN - CLR.REFL. W/ BLK.BAFFLE PRESCOLITE CF122518-B462	F18DTT/27K STD	000	2	
F8	2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT	FO32/31K EOCT	000 - 59	5	
н8	11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	FO96/735 EOCT	000 - 105	10	
L8	1X4 2L SOLID REFL.INDUSTRIAL OPEN- NO SHIELDING COLUMBIA CSR240-PAF-EOCT	FO32/35K EOCT	000 - 60	1	
v	7"RECESS ROUND DOWNLIGHT, WIDE OPEN-CLR.ALZAK REFL.(20DEG CO) MOLDCAST C-2729	HR175RDXFL39 STD	210	32	

NOTES:

63-120 Areas

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Type: Indoor Filename: 63-120

Project Area Summary

Project name: PBA Lighting Survey - Bldg 63-120

Prepared for: Corps of Engineers
Prepared by: C. Warren

|Project #6941331 Date: 14-Mar-95

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UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	LUM	INAIRES	W/SQ.FT	QTY
LOADING AREA 1	164x60x18Ft	(10) (32)	Type H1 Type V	0.8	1
LOAD AREA 1-N	164x60x18Ft	(10) (32)	Type H8 Type V	0.8	1
IANGE AREA	17x18x8Ft	(2) (2) (2)	Type A Type B Type X5	2.4	1
CHANGE AREA-N	17x18x8Ft	(4)	Type A8 Type CF	0.9	1
R/A STORAGE	10x10x8Ft	(2)	Type F	3.3	1
R/A STORAGE-N	10x10x8Ft	(1)	Type F8	0.6	1
OFFICE	10x14x8Ft	(2)	Type F	2.4	1
OFFICE-N	10x14x8Ft	(2)	Type F8	0.8	1
RESTROOM 1	10x8x8Ft	(1)	Type A	1.2	1
RESTROOM 1-N	10x8x8Ft	(1)	Type A8	0.7	1
TOOL ROOM OFC	9x20x8Ft	(1)	Type Ll	0.5	1
TOOL ROOM OFC-N	9x20x8Ft	(1)	Type L8	0.3	1
BREAK ROOM	16x14x8Ft	(2)	Type F	1.5	1
REAK ROOM-N	16x14x8Ft	(2)	Type F8	0.5	1

63-120 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-120 Type: Indoor

Project Calculation Summary

Project name: PBA Lighting Survey - Bldg 63-120

Prepared for: Corps of Engineers Prepared by: C. Warren

Project #6941331 Date: 14-Mar-95 UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	GRID NAME	/A	/E	MAX	MIN
LOADING AREA 1	164x60x18Ft	Ceiling	<+>	13.7	62.1	0.0
LOAD AREA 1-N	164x60x18Ft	Ceiling	<+>	14.1	59.5	0.0
CHANGE AREA	17x18x8Ft	Ceiling	<+>	36.9	77.3	0.0
	17x18x8Ft	Ceiling	<+>	21.7	35.9	0.0
R/A STORAGE	10x10x8Ft	Ceiling	<+>	68.8	94.6	46.7
R/A STORAGE-N	10x10x8Ft	Ceiling	<+>	23.9	42.3	12.5
OFFICE	10x14x8Ft	Ceiling	<+>	54.4	80.4	36.2
OFFICE-N	10x14x8Ft	Ceiling	<+>	37.4	60.0	19.5
RESTROOM 1	10x8x8Ft	Ceiling	<+>	25.0	36.5	16.9
RESTROOM 1-N	10x8x8Ft	Ceiling	<+>	22.3	32.5	15.0
TOOL ROOM OFC	9x20x8Ft	Ceiling	<+>	14.9	35.9	4.8
TOOL ROOM OFC-N	9x20x8Ft	Ceiling	<+>	15.3	36.4	5.1
BREAK ROOM	16x14x8Ft	Ceiling	<+>	39.8	78.9	11.6
BREAK ROOM-N	16x14x8Ft	Ceiling	<+>	24.3	48.4	6.6

NOTES:

2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:12 18-Jan-95 Values are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (U), HORZ CALC, Z= PROJECT: 63-120 AREA: LOADING AREA 1 GRID: Ceiling Computed in accordance with IES recommendations

AUE/MIN=N/A MAX/MIN=N/A AUE = 13.7MAX=62.1 + MIN=0.00

(1) HR175RDXFL39, LLF= 0.53 (2) F96T12/CW, LLF= 0.67 H1 (10) = K7993 COLUMBIA CSR296, U <32> = M13104 MOLDCAST C-2729,

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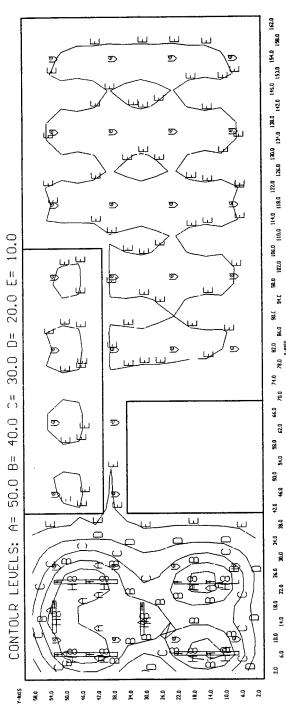
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2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:27 14-Mar-95 PROJECT: 63-120 AREA: LOAD AREA 1-N GRID: Ceiling =2 Values are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (V), HORZ CALC, Computed in accordance with IES recommendations

AUE/MIN=N/A MAX/MIN=N/A AUE=14.1 MAX=59.5 + MIN=0.00

H8 <10> = K7993 COLUMBIA CSR296, <2> F096/735, LLF= 0.69 U <32> = M13104 MOLDCAST C-2729, <1> HR175RDX⁻L39, LLF= 0.53



82.0 90.C 78.0 86.0 x-exis 62.0 54.0 90.0 38.0 30.0 22.0 26.0 14.0

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:20 18-Jan-95 PROJECT: 63-120 AREA: RESTROOM 1 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

2.16 1.48 MAX/MIN= AUE/MIN= AUE=25.0 MAX=36.5 + MIN=16.9

A (1) = K9604 COLUMBIA WCW240-A, (2) F40CW, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 3.0 7.0 X-AXIS

PROJECT: 63-120 AREA: RESTRÓOM 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 16:34 14-Mar-95 USI's LITE*PRO U2.27E Point-By-Point Numeric Outpu:

2.16 1.48 MAX/MIN= AUE/MIN= AUE=22.3 MAX=32.5 + MIN=15.0

A8 <1> = K9604 COLUMBIA WCW240-A, (2) F032/35K, LLF = 0.66

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Y-AXIS

1.0 5.0 9.0 3.0 7.0 X-AXIS

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:44 18-Jan-95 PROJECT: 63-120 AREA: CHANGE AREA GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=77.3 AUE=36.9 AUE/MIN=N/A MAX/MIN=N/A

A $\langle 2 \rangle$ = K9604 COLUMBIA WCW240-A, (2) F40CW, LLF= 0.68 B $\langle 2 \rangle$ = K9708 COLUMBIA WCW440-A, (4) F40CW, LLF= 0.68 X5 $\langle 2 \rangle$ = B1397B PRESCOLITE PBX-TL30, (1) 75A19/IF, LLF= 0.76

1	
17.0	+ + + + + + + + + + + + + + + + + + +
15.0	+ + + + + + + + + + + + + + + + + + +
13.0	0.00 0.00 0.00 0.00 31.4 40.7 40.7 31.2
11.0	+ + + + + + + + + + + + + + + + + + +
9.0	+ + + + + + + + + + + + + + + + + + +
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5.0	+ + + + + + + + + + + + + + + + + + +
3.0	0.00 0.00 0.00 0.00 51.8 70.8 69.6 49.6
1.0	3.27 3.23 3.15 2.92 35.3 48.3 49.0 37.3
	1.5 5.5 9.5 13.5 3.5 7.5 11.5 15.5 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:39 14-Mar-95 PROJECT: 63-120 AREA: CHANGE AREA-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00

MAX=35.9

AUE=21.7

AUE/MIN=N/A MAX/MIN=N/A

A8 $\langle 4 \rangle$ = K9604 COLUMBIA WCW240-A, (2) F032/35K, LLF= 0.66 CF $\langle 2 \rangle$ = B2125A PRESCOLITE CF122518-B462, (1) F18DTT/27K, LLF= 0.50

17.0	+ + + + + + + + + + + + + + + + + + +
15.0	30.0 35.9 31.7 22. 22.0 28.7 28.9 22.3
13.0	0.00 0.00 0.00 0.00 25.6 33.6 33.6 25.4
11.0	+ + + + + + + + + + + + + + + + + + +
9.0	24.7 29.6 27.2 19. + 22.8 27.5 27.3 22.2
7.0	26.8 32.2 29.5 20.9 24.3 29.8 29.5 23.2
5.0	21.3 25.1 23.5 17.7 26.4 33 \$48 \$3.4 25.0
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	X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:53 18-Jan-95 PROJECT: 63-120 AREA: R/A STORAGE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

2.03 1.47 MAX/MIN= AUE/MIN= AUE=68.8 MAX=94.6 + MIN=46.7

F (2) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

Y-AXIS

51.8	52.9	51.8	+ 46.7
79.8	+ 80.2	**************************************	71.7
94.6	93.9	94.6	, 85,9
79.8	+80.2	79.8	71.7
51.8	+ 52.9	51.8	+ 46.7
7.0	5.0	3.0	0.
	79.8 94.6 79.8	51.8 79.8 94.6 79.8 + + + + + + + + + + + + + + + + + + +	51.8 79.8 94.6 79.8 52.9 80.2 93.9 80.2 7 + + + + + + + + + + + + + + + + + + +

1.0 5.0 9.0 3.0 7.0 X-AXIS

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USI's LITE*PRO U2.27E Point-3y-Point Numeric Output 16:43 14-Mar-95 PROJECT: 63-120 AREA: R/A STORAGE-N GRID: Ceiling Ualues are ⁷C, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=12.5 MAX=42.3 AUE=23.9 AUE/MIN= 1.91 MAX/MIN= 3.

F8 <1> = 9858 COLUMBIA T84PS2*-84-242-2ECCT, (2) FC32/31K, LLF= 0.66

Y-AXIS

0.0	12.8	19.0	22.7	19.4	12.5
2.0	19.2	+ 29.4	34.6	29.1	18 +
5.0	22.2	35.2	F8 42.3	₩ ₩	+ 21.7
3.0	19.5	29.9	35.2	+ 29.6	19.1
1.0	+ 13.2	+ 23.1	+ 23.4	19.9	12.9

1.0 5.0 9.0 3.0 7.0 X-AXIS USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:56 18-Jan-95 PROJECT: 63-120 AREA: OFFICE GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRÍD (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.51 MAX/MIN= 2.22 AUE=54.4 AUE/MIN= MAX=80.4 + MIN=36.2

F (2) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

13.0	+ 36.2	+ 55 <u>.</u> 9	+ 66.9	+ 55.9	+ 36.2
11.0	+ 42.0	67.1	₽ - 80.4	67.1	+ 42.0
9.0	+ 40.4	+ 61.8	+ 72.6	+ 61.8	+ 40.4
7.0	+ 37.6	+ 56.0	+ 64.9	+ 56.0	+ 37.6
5.0	+ 40.4	61.8	+ 72.6	61.8	+ 40.4
3.0	+ 42.0	67.1	# 80.4	67.1	+ 42.0
1.0	+ 36.2	+ 55.9	+ 66.9	+ 55.9	+ 36.2
	1.0	3 . 0	5.0	7.0	9.0
			X-AXIC		

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:48 14-Mar-95 PROJECT: 63-120 AREA: OFFICE-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=19.5 MAX=60.0 AUE=37.4 AUE/MIN= 1.92 MAX/MIN= 3.08

F8 $\langle 2 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66

Y-AXIS

CONTOUR LEVELS: A= 60.0 B= 50.0 C= 40.0 D= 30.0 E= 20.0

13.0

11.0

9.0

7.0

5.0

1.0

5.0

9.0

3.0

X-AXIS

7.0

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 17:04 18-Jan-95 PROJECT: 63-120 AREA: TOOL ROOM OFC GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

with the state of the state of the state of

+ MIN=4.84 MAX=35.9 AUE=14.9 AUE/MIN= 3.08 MAX/MIN= 7.42

 $L1 \langle 1 \rangle$ = K7990 COLUMBIA CSR240, (2) F40CW, LLF= 0.68

()	\wedge	Α.	$\Gamma \subset \Gamma$
Υ	Н	Α.	

19.0	+ †. 93	+ 5 . 09	+ 5.06	+ 5 . 06	+ 4.8¶
17.0	+ 6.76	+ 7.48	+ 7.60	+ 7.33	+ 6.53
15.0	+ 0.2	+ 12.4	+ 13.0	+ 11.9	9.52
13.0	+ 7.3	+ 21.3	+ 22.7	19.7	+ 15.3
11.0	 + 23.0	+ 30.7	33.5	+ 27.9	+ 19.9
9.0	+ 24.0	+ 32.6	L1 35,9	+ 29 . 5	+ 20.6
7.0	+ 9.4	+ 24.9	+ 27.0	+ 22 . 9	+ 17.0
5.0	+ 2.2	+ 15.2	+ 16.1	+ 14.4	+ 11.2
3.0	8. 14	+ 9 . 10	9. 30	+ 8.83	7.7
1.0	+ 5.84	+ 6.04	+ 6.01	+ 5.97	+ 5.68
	0.5	2.5	4.5	6 . 5	8.5
		2.0	X-AXIS	5	-

The state of the s

+ MIN=5.10 MAX=36.4 AUE=15.3 AUE/MIN= 3.00 MAX/MIN= 7.13

L8 $\langle 1 \rangle$ = 10331 COLUMBIA CSR240-PAF-EOCT, (2) F032/35K, LLF= 0.73

Y-AXIS 19.0 5.33 5.36 5.32 17.0 7.85 7.93 7.69 6.8# 15.0 12.9 13.4 12.3 9.8\$ 13.0 21.8 23.1 20.3 15.∤ 11.0 9 28.4 31.1 L8 9.0 30.0 7.0 25.4 23.5 17.# 5.0 16.5 3.0 9.66 1.0 6.31 8.5 0.5 4.5 2.5 6.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 17:41 18-Jan-95 PROJECT: 63-120 AREA: BREAK ROOM GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=11.6 MAX=78.9 AUE=39.8 AUE/MIN= 3.42 MAX/MIN= 6.78

F (2) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF= 0.68

Y-AXIS

13.0	+ 14.5	+ 18.0	+ 19.6	+ 19.7	+ 19.3	+ 17.8	+ 15.3	+ 11.6
11.0	+ 24.9	+ 34.3	+ 37.6	+ 36.6	+ 36.2	+ 34.8	+ 28.3	+ 18.4
9.0	+ 40.1	58 0/	63.5	+ 60.3	+ 60.7	+	+ 47.4	+ 28.4
7.0	+ 48.5	71 9 f	78.9	+ 74.2	+ 76.0	75.1	+ 59.5	+ 34.5
5.0	+ 42.2	61.6	67.8	65.0	+ 66.9	+ 67.5	52 . 7	+ 31.0
3.0	+ 27.4	+ 38.1	+ 42.1	+ 41.8	+ 42.8	+ 42.1	+ 34.0	+ 21.5
1.0	+ 16.1	+ 20.3	+ 22.3	+ 22.8	+ 23.1	21.9	+ 18.6	+ 13.6
	1.0	3.0	5.0			11.0		

11.12.11 的機構就是的機構的學術。

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:54 14-Mar-95 PROJECT: 63-120 AREA: BREAK ROOM-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.56 MAX=48.4 AUE=24.3 AUE/MIN= 3.70 MAX/MIN= 7.37

F8 $\langle 2 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66

Y-AXIS

Bldg 63-200 Summary

_								
	Total	Watts	1,298	7,208	854			9,360
nt System	Number	Fixtures	22	89	14			104
Replacement System	Watts/	Fixture	29	106	19			
	Fixture	Туре	F2	F8	FR			Totals
				_	<u> </u>	 _	Ţ	
!	Total	Watts	15,770	756				16,526
tem	Number	Fixtures	95	6				104
Present System	Watts/	Fixture	166	84				
	Fixture	Type	4	9				Totals

63-200 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-200 Type: Indoor

Luminaire Fixture Schedule

Project name: Lighting Survey - PBA Bldg 63-200 Prepared for: Corps of Engineers

Prepared by: C. Warren

|Project #6941331

The same property of the same of the same

Date: 6-Jan-95 UPD: 1.4W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
F	2X4 4L FLUSH STATIC TROFFER LENS125" POLARIZED PATT.12 COLUMBIA 4PS2*-87-244	F40CW ESB	000 - 166	95	
G	2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-12 COLUMBIA 4PS2*-52-242	F40CW ESB	000	9	

63-200 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-200 Type: Indoor

Luminaire Fixture Schedule

Project name: Lighting Survey - PBA Bldg 63-200

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.8W/Sq.Ft

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TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
F2	2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT	FO32/31K EOCT	000 - 59	22	
F8	2X4 4L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-244-4EOCT	FO32/31K EOCT	106	68	
FR	2X4 ACRYLIC LENSED TROFFER SILVER NORMAL BEAM REFLECTOR METALOPTICS 24TRSO42EP11	FO32/35K EOCT	61	14	

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-200 Type: Indoor

Project Area Summary

Project name: Lighting Survey - PBA Bldg 63-200

Prepared for: Corps of Engineers

Prepared by: C. Warren

|Project #6941331

Date: 15-Mar-95 UPD: 1.1W/Sq.Ft

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AREA NAME	DIMENSIONS	LUI	MINAIRES	W/SQ.FT	YTQ
MAIN ASSEMBLY	154x68x10Ft	(82)	Type F	1.3	1
MAIN ASSEMBLY-N	154x68x10Ft	(68)	Type F8 Type FR	0.8	1
RREAK AREA	28x37x8Ft	(13)	Type F	2.1	1
REAK AREA-N	28x37x8Ft	(13)	Type F2	0.7	1
STORAGE	28x6x8Ft	(3)	Type G	1.5	1
STORAGE-N	28x6x8Ft	(3)	Type F2	1.1	1
OFFICE 1	11x14x8Ft	(2)	Type G	1.1	1
OFFICE 1-N	11x14x8Ft	(2)	Type F2	0.8	1
OFFICE 2	16x20x8Ft	(4)	Type G	1.0	1
OFFICE 2-N	16x20x8Ft	(4)	Type F2	0.7	1

63-200 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-200 Type: Indoor

Project Calculation Summary

Project name: Lighting Survey - PBA Bldg 63-200

Prepared for: Corps of Engineers Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 1.1W/Sq.Ft

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AREA NAME	DIMENSIONS	GRID NAME	E AVE		MAX	MIN
MAIN ASSEMBLY	154x68x10Ft	Ceiling	<+>	39.6	97.3	0.0
MAIN ASSEMBLY-N	154x68x10Ft	Ceiling	<+>	44.1	71.9	0.0
RREAK AREA	28x37x8Ft	Ceiling	<+>	55.3	113.2	0.3
_REAK AREA-N	28x37x8Ft	Ceiling	<+>	33.4	67.8	0.2
STORAGE	28x6x8Ft	Ceiling	<+>	37.5	47.7	29.2
STORAGE-N	28x6x8Ft	Ceiling	<+>	35.9	46.1	28.2
OFFICE 1	11x14x8Ft	Ceiling	<+>	30.9	46.9	9.5
OFFICE 1-N	11x14x8Ft	Ceiling	<+>	29.6	46.1	7.2
OFFICE 2	16x20x8Ft	Ceiling	<+>	36.8	68.0	14.4
OFFICE 2-N	16x20x8Ft	Ceiling	<+>	35.1	67.3	12.2

2.5 USI's LITE*FRC U2.27E Point-By-Point Numeric Output 17:09 14-Mar-95 PROJECT: 63-200 AREA: MAIN ASSEMBLY GRID: Ceiling Ualues are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=97.3 AUE=39.6 AUE/MIN=N/A MAX/MIN=N/A

F <82> = 9753 CJLJMBIA 4P52*-87-244, (4) F40CW, LLF= 0.68

ELL ELL CONTOUR LEVELS: A= 80.0 B= 70.0 C= 60.0 D= 50.0 E= 40.0

2.5 USI's LITE*FRO U2.27E Point-By-Point Numeric Output 09:32 15-Mar-95 PROJECT: 63-200 AREA: MAIN ASSEM3LY-N GRID: Ceiling Values are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (U), HÓRZ CALC, Computed in accordance with IES recommendations

+ MIN=0.00 MAX=71.9 AUE=44.1 AUE.MIN=N.A MAX.MIN=N.A

F8 (68) = A9750 COLUMBIA T84PS2*-84-244-4ECCT, (4) F032/31K, LLF= 0.67 FR <14) = T10513 METALOPTICS 24TRS042EP11, (2) F032/35K, LLF= C.69

CONTOUR LEVELS: A= 70.0 B= 60.0 C= 50.0 D= 40.0 E= 30.0

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:06 6-Jan-95 PROJECT: 63-200 AREA: BREAK AREA GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.32 MAX=113. AUE=55.3 AUE/MIN= 168.68 MAX/MIN= 345.53

F (13) = 9753 COLUMBIA 4PS2*-87-244, (4) F40CW, LLF = 0.68

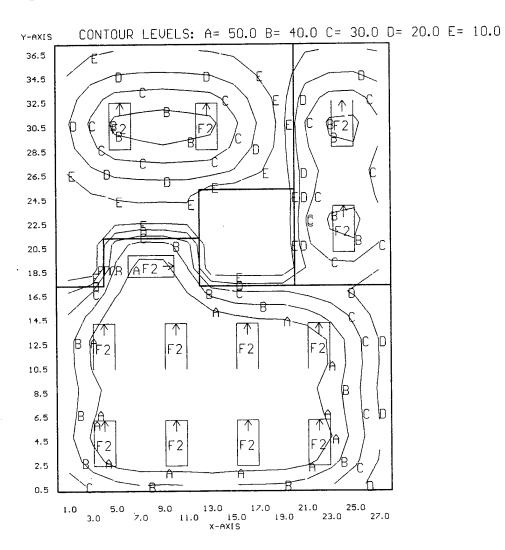
Y-AXIS 11.0 14.4 17.0 17.8 17.5 17.3 16.3 13.7 9.95 6.11 15.4 17.5 17.9 15.8 36.5 16.6 26.2 33.4 34.3 32.8 33.7 32.6 25.5 15.6 9.14 25.8 33.3 34.0 26.9 34.5 24.1 42.9 57/B 58.2 54.5 57.3 58.3 42.8 23.5 11.7 39.7 56 2/57.4 41.6 32.5 28.3 52.7 13.0 12.5 67.2 71.9 73.3 53.5 28.3 13.0 48.1 70 5 72.0 50.6 30.5 28.5 16.6 28.5 37.4 38.4 37.0 39.0 39.3 30.6 17.5 8.88 40.0 54.4 55.7 42.7 26.5 9.78 14.5 18.0 19.0 18.7 19.1 0.34 0.53 0.36 0.38 42.3 58,9,60.7 45.7 24.5 6.02 7.81 8.91 9.60 9.64 9.54 0.34 0.37 0.38 0.38 47.9 69 9-72.2 51.9 22.5 20.5 4.03 4.42 58.1 <u>74.5 73.5</u> 55.9 0.33 0.36 0.38 0.38 44.6 64.7 66.7 48.1 2.68 2.54 69.9 90.7 90.8 67.6 0.32 0.35 0.37 0.37 32.5 43.9 44.8 33.1 18.5 16.5 51.6 74 8492.1 102. 104.497.0 88.0 84 489.4 76.8 73 3463.8 44.8 26.6 14.5 61.4 90 \$ 105. 109. 11BF1 2. 107. 107F104. 99.5 90 F8\$.5 56.3 31.2 12.5 10.5 61.2 88.0 101, 105, 108, 108, 106, 106, 104, 100, 96,6 83,4 57,2 32,3 8.5 59.3 82-669-3 98.1 101.6192. 100. 101.693.6 96.1 91-873.6 55.6 32.8 62.9 90. F103. 105. 109 F10. 108. 109 F108. 103. 100 F87.2 59.3 33.8 4.5 56.7 80.0 90.7 93.2 96.6 97.4 95.9 97.1 95.9 91.8 88.6 77.1 53.4 31.1 2.5 11.0 17.0 15.0 19.0 21.0 25.0 23.0 27.0

6.2.5. 非线线模型的分类的方数2mg

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 09:39 15-Mar-95 PROJECT: 63-200 AREA: BREAK AREA-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

AUE/MIN= 164.83 MAX/MIN= 334.23 AUE=33.4 MAX = 67.8+ MIN=0.20

F2 (13) = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66



USI's LITE*PRO U2.27E Point-By-Point Numeric Output 11:15 6-Jan-95 PROJECT: 63-200 AREA: STORAGE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=29.2 MAX=47.7 AUE=37.5 AUE\MIN= 1.28 MAX\MIN=

6 < 3 > = 9975 COLUMBIA 4PS2*-52-242, (2) F40CW, LLF = 0.68

y-exts 5.0 31.2 41.0 41.7 34.1 29.2 33.6 41.0 41.0 33.6 25.2 34.1 41.7 41.0 31.2 3.0 34.5 44.2 38.0 32.2 37.6 42.2 42.2 37.6 32.2 38.0 42.2 44.3 34.5 1.0 31.2 41.0 41.7 34.1 29.2 33.6 41.0 41.0 33.6 29.2 34.1 41.7 41.0 31.2 1.0 5.0 9.0 13.0 17.0 21.0 25.0 27.0 3.0 11.0 15.0 19.0 23.0 27.0 x-AXIS

ALPHARM COLOR

USI's LITE*PRO U2.27E Point-3y-Point Numeric Output 09:41 15-Mar-35 PROJECT: 63-230 AREA: STORAGE-N GRID: Celing Ualues are ⁻C, SCALE: 1 IN= 8.0FT, HORZ GRID (Ú), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=28.2 MAX=46.1 AUE=35.9 AUE/MIN= 1.28 MAX/MIN=

F2 <3> = 9858 COLUMBIA 184PS2*-84-242-2ECCI, (2) F032/31K, LLF= 0.66

Y-AXIS

5.0 25,8 35,2 35,6 32,5 28,2 32,1 35,1 35,1 22,1 28,2 32,5 35,8 33,2 25,8 3.0 33,3 45,6 46,1 3 6,4 31,1 35,9 45,4 45,4 35,9 31,1 36,4 46,1 45,4 35,3 31,1 36,4 46,1 45,4 35,3 31,1 36,4 46,1 45,4 35,3 31,1 36,4 46,1 45,4 35,3 31,1 36,4 46,1 45,4 35,3 31,3 32,2 35,8 33,2 25,8 31,0 25,8 33,2 35,8 33,2 25,8 33

7.0 9.0 13.0 17.0 21.0 25.0 25.0 7.0 27.0 x-AXIS

3.0

1.0

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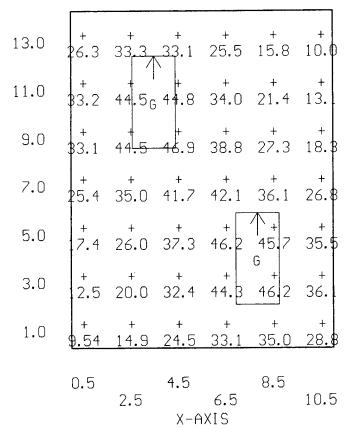
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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:19 6-Jan-95 PROJECT: 63-200 AREA: OFFICE 1 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=9.54 MAX=46.9 AUE=30.9 AUE/MIN= 3.24 MAX/MIN= 4.92

 $G \langle 2 \rangle = 9975$ COLUMBIA 4PS2*-52-242, (2) F40CW, LLF= 0.68

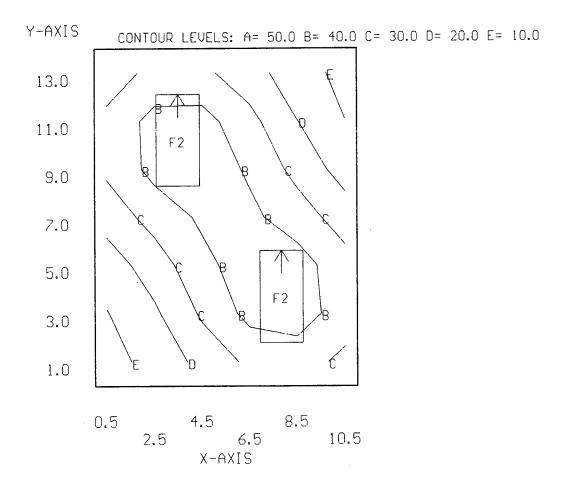
Y-AXIS



USI's LITE*PRO V2.27E Point-By-Point Numeric Output 09:44 15-Mar-95 PROJECT: 63-200 AREA: OFFICE 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=7.17 MAX=46.1 AUE=29.6 AUE/MIN= 4.13 MAX/MIN= 6.43

 $F2 \langle 2 \rangle = 9868$ COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66



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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:26 6-Jan-95 PROJECT: 63-200 AREA: OFFICE 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=14.4 MAX=68.0 AUE=36.8 AUE/MIN= 2.55 MAX/MIN= 4.71

G (4) = 9975 COLUMBIA 4PS2*-52-242, (2) F40CW, LLF= 0.68

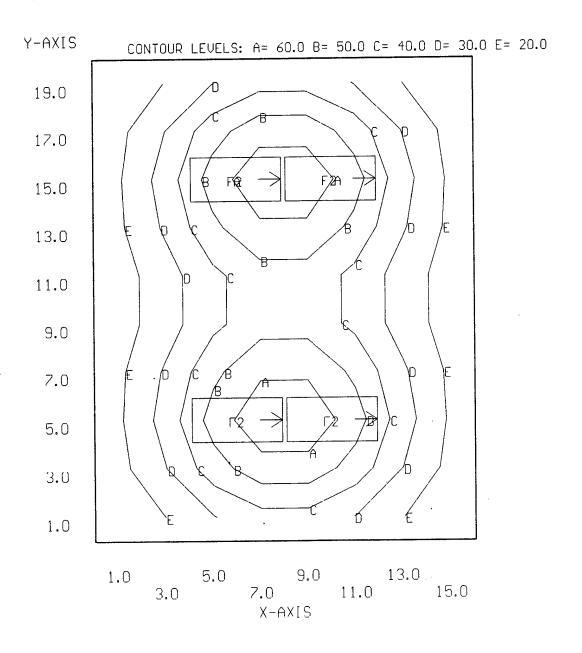
Y-AXIS

19.0	+ 14.4	21.7	+ 30.7	+ 37.0	+ 37.0	+ 30.7	21.7	+ 14.4
17.0	+ 18.5	+ 31.4	47.0	57.5	57.5	+ 47.0	+ 31.4	18.5
15.0	+ 20.6	+ 36.1	+ 6 55.4	68.D	+ 6 68.0	55.4	+ 36.1	+ 20.6
13.0	+ 19.9	+ 33.6	+ 50.0	+ 60.9	+ 60.9	50.0	+ 33.6	+ 19.9
11.0	+ 18.1	+ 28.2	+ 39.9	+ 47.6	+ 47.6	+ 39.9	+ 28.2	18.1
9.0	+ 18.1	+ 28.2	+ 39.9	+ 47.6	+ 47.6	39.9	+ 28.2	+ 18.1
7.0	+ 19.9	+ 33.6	50.0	+ 60.9	60.9	50.0	+ 33.6	+ 19.9
5.0	+ 20.6	+ 36.1	+ (55.4	68 . 0	+ (68.0	3 +→ 55.4	+ 36.1	+ 20.6
3.0	18.5	+ 31.4	+ 47.0	+ 57 . 5	+ 57 . 5	+ 47.0	+ 31.4	+ 18.5
1.0	+ 14.4	+ 21.7	+ 30.7	+ 37.0	+ 37.0	+ 30.7	+ 21.7	+ 14.4
	1.0	3.0	5.0		0.e 21XF	11.0	13.0	15.0

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 09:46 15-Mar-95 PROJECT: 63-200 AREA: OFFICE 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=12.2 MAX=67.3 AUE=35.1 AUE/MIN= 2.87 MAX/MIN= 5.51

F2 $\langle 4 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66



Bldg 63-210 Summary

	Total	Watts	5,565	1,888	300			7,753
int System	Number	Fixtures	53	32	3			88
Replacement System	Watts/	Fixture	105	29	100			
	Fixture	Туре	83	85	١Z			Totals
1		"	4	4:	300			88
	Total	Watts	8,364	2,624	36	,		11,288
tem	Number	Fixtures	89	32	က			103
Present System	Watts/	Fixture	123	82	100			
_	Fixture	Type	ည	g	21			Totals

63-210 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Filename: 63-210 Type: Indoor

Luminaire Fixture Schedule

Project name: Lighting Survey - PBA Prepared for: Corps of Engineers

Prepared by: C. Warren

|Project #6941331 Date: 24-Jan-95 UPD: 1.0W/Sq.Ft

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TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
C3	11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	F96T12/CW/WM ESB	000 - 123	68	
G	2'X4' 2L STATIC GRID TROFFER LENS125" THK PRISMATIC A12 COLUMBIA 2SG240-EXA.125NOM	F40CW ESB	000 - 82	32	
Z1	6" RECESSED ROUND DOWNLIGHT OPEN- BL.BAFFLE W/ WIDE TRIM PRESCOLITE PBX-TB12	100A19/IF NA	000	3	

63-210 Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-210 Type: Indoor

Luminaire Fixture Schedule

Project name: Lighting Survey - PBA Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.7W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
C8	11"X8' 2L INDUSTRIAL OPEN BOTTOM- NO SHIELDING COLUMBIA CSR296	FO96/735 EOCT	000 - 105	53	
G8	2X4 2L FLUSH STATIC TROFFER LENS-PRISMATIC ACRYLIC PATT-19 COLUMBIA T84PS2*-84-242-2EOCT	FO32/31K EOCT	000 - 59	32	
Z1	6" RECESSED ROUND DOWNLIGHT OPEN- BL.BAFFLE W/ WIDE TRIM PRESCOLITE PBX-TB12	100A19/IF NA	100	3	

63-210 Areas

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-210 Type: Indoor

Project Area Summary

Project name: Lighting Survey - PBA

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95

UPD: 0.9W/Sq.Ft

(50) (15) (15) (3)	Type C3 Type C8 Type G Type G8	1.1	1 1 1
(15)	Type G	1.4	1
(15)	Type G8	-]	1 1
		1.0	1
(2)		_	
(3)	Type C3	0.4	1
(3)	Type C8	0.4	1
(2)	Type Z1	0.7	1
(10) (1)	Type G Type Z1	0.9	1
(10)	Type G8 Type Z1	0.7	1
(7)	Type G	1.0	1
(7)	Type G8	0.7	1
	(10) (1) (7)	(10) Type G8 (1) Type Z1 (7) Type G	(10) Type G8 0.7 (1) Type Z1 (7) Type G 1.0

63-210 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-210 Type: Indoor

Project Calculation Summary

Project name: Lighting Survey - PBA Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	GRID NAME	AVE		MAX	MIN	
MAIN WORK AREA	126x60x10Ft	Ceiling	<+>	58.5	229.7	0.0	
MAIN AREA-N	126x60x10Ft	Ceiling	<+>	43.8	128.8	0.0	
M43 TEST	30x30x8Ft	Ceiling	<+>	52.7	96.3	13.9	
43 TEST-N	30x30x8Ft	Ceiling	<+>	48.1	90.5	12.3	
STORAGE ROOMS	71x12x10Ft	Ceiling	<+>	15.0	31.5	2.6	
STORAGE ROOMS-N	71x12x10Ft	Ceiling	<+>	14.7	30.9	2.6	
DRYING ROOM	20x14x10Ft	Ceiling	<+>	3.6	15.4	0.4	
BREAK ROOM	28x36x8Ft	Ceiling	<+>	28.4	61.3	0.0	
BREAK ROOM-N	28x36x8Ft	Ceiling	<+>	26.2	58.3	0.0	
OFFICE/TOOL RM	28x20x8Ft	Ceiling	<+>	34.8	67.6	9.4	
OFF/TOOL RM-N	28x20x8Ft	Ceiling	<+>	32.3	63.7	7.8	

Values are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (V), HORZ CALC, Z= 2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 11:44 24-Jan-95 PROJECT: 63-210 AREA: MAIN WORK AREA GRID: Celling Computed in accordance with IES recommendations

+ MIN=0.00 MAX=230. AUE=58.5 AUE.MIN=N/A MAX/MIN=N/A

C3 (65) = K7993 COLUMBIA CSR296, (2) F96T12/CW/WM, LLF= 0.69

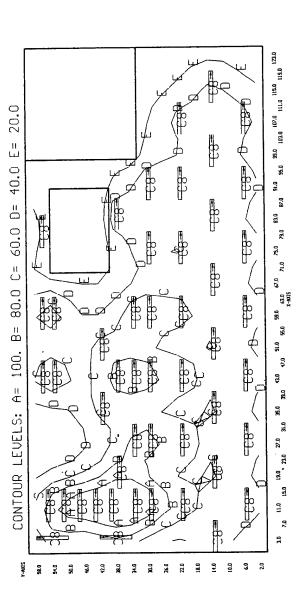
720 un' de 3,720 un un un' de 3,720 de 18,3120 de 3,520 de 18,3120 de 18,413,520 de 18,411,530 de 464 541 551 572 662 663 584 582 610 586 584 582 573 556 528 531 546 523 639 500 515 643 613 913 315 186 26 275 461 467 283 451 482 460 461 472 486 460 283 451 452 452 253 384 452 453 268 258 453 384 252 353 354 250 150 150 ५३ ८<u>६ स्टिन</u>क्क गं. गं. हिन्नुक्क वं. अं. स्टिन्नुक्क गंग गं. दिनुक्क अंग अंट दिनुक्क वंश गंग गंग + 8 स्टीको थे अस्टिनको को क्रिक्टीको को क्रिक्टीको थे। ख्रिट्टीको थे। अस्टिनको थे। अस्टिनको थे। अस्टिनको अंग फं<mark>न्स्ट्रिक</mark> थे। ग्रंग्डिट्रिक ग्रंग्डॉन्ड्रिक थे। ग्रंग्डिट्रिक फंड पंन्स्ट्रिक गंड थे। 106. 627 49.2 48.5 56.8 73.2 91.3 93.6 93.0 92.5 79.0 56.1 32.1 26.0 22.0 18.0

7.0 11.0 5.0 27.0 27.0 27.0 27.0 27.0 57.0 57.0 67.0 71.0 75.0 78.0 67.0 87.0 87.0 87.0 87.0 112.0 113.0 173

Ualues are FC, SCALE: 1 IN= 24.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 10:09 15-Mar-95 USI's LITE*PRO U2.27E Foint-By-Point Numeric Output PROJECT: 63-210 AREA: MAIN AREA-N GRID: Ceiling Computed in accordance with ES recommendations

+ MIN=0.00 MAX=129. AUE=43.8 AUE/MIN=N/A MAX/MIN=N/A

C8 (50) = K7993 COLUMBIA CSR296, (2) F396/735, LLF= 0.66



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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 12:00 24-Jan-95 PROJECT: 63-210 AREA: M43 TEST GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=13.9 MAX=96.3 AUE=52.7 AUE/MIN= 3.79 MAX/MIN= 6.93

G (15) = K7965 COLUMBIA 2SG240-EXA.125NOM, (2) F40CW, LLF= 0.68

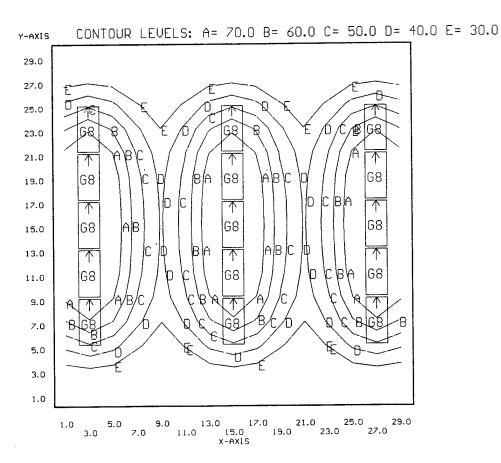
Y-AXIS 29.0 27.0 45.8 52.2 46.5 34.8 28.0 34.6 46.1 51.9 46.1 34.6 28.0 34.8 46.5 52.2 45.8 25.0 63.7 73.2 64.1 46.6 36.4 46.3 63.5 72.4 63.5 46.3 36.4 46.6 64.1 73.2 63.7 23.0 77.0 88.8 75.8 54.7 42.2 54.3 74.9 88.2 74.9 54.3 42.2 54.7 75.8 88.8 77.0 21.0 82.8 93.2 81.7 58.6 45.3 58.1 80.6 91.3 80.6 58.1 45.3 58.6 81.7 93.2 82.8 19.0 84.6 99.6 83.7 60.2 46.7 59.7 82.5 93.6 82.5 59.7 46.7 60.2 83.7 93.6 84.6 85.3 96.3 84.5 60.6 47.0 60.0 83.2 94.4 83.2 60.0 47.0 60.6 84.5 96.3 85.3 15.0 84.6 95.6 83.7 60.2 46.7 59.7 82.5 93.6 82.5 59.7 46.7 60.2 83.7 94.6 84.6 13.0 82.8 93.2 81.7 58.6 45.3 58.1 80.6 91.3 80.6 58.1 45.3 58.6 81.7 93.2 82.8 11.0 77.0 88.8 75.8 54.7 42.2 54.3 74.9 89.2 74.9 54.3 42.2 54.7 75.8 88.8 77.0 9.0
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1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 10:13 15-Mar-95 PROJECT: 63-210 AREA: M43 TEST-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=12.3 MAX=90.5 AUE=48.1 AUE/MIN= 3.92 MAX/MIN= 7.38

G8 $\langle 15 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66



Ualues are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 12:08 24-Jan-95 PROJECT: 63-210 AREA: STORAGE ROOMS GRID: Ceiling Computed in accordance with IES recommendations

5.71 MAX/MIN= 12.03 AUE/MIN= AUE = 15.0MAX=31.5 + MIN=2.62

C3 (3) = K7993 COLUMBIA CSR296, (2) F96T12/CW/WM, LLF= 0.69

100 117 158 206 243 252 211 183 143 106 150 126 180 213 252 252 252 252 113 143 113 151 123 184 251 202 315 262 725 162 115 21.0 21.2 20.2 12.0 13.4 10.4 123 17.0 225 267 27.8 25.4 20.4 15.2 11.1 10.3 13.1 16.1 18.4 19.1 17.8 15.2 148 164 227 77.2 27.8 244 185 126 659 11.1 17.0 226 784 781 784 182 129 863 9.46 13.8 18.4 21.7 22.2 19.7 15.3 10.9 7.67 4.92 10.2 15.2 20.8 24.7 25.3 22.3 17.1 11.8 8.14 10.3 13.3 15.3 15.6 14.1 11.4 8.49 6.31 6.56 8.38 11.3 15.5 20.2 23.9 25.0 23.0 18.5 13.4 8.595 5.65 3.78 2.9 8.70 12.2 17.5 726 738 31.2 72. 73.7 15.0 8.66 6.07 4.01 8.78 12.4 17.5 24.4 25.7 31.3 28.4 22.3 15.4 9.78 6.11 4.00 680 842 109 141 128 206 214 138 165 125 829 435 333. 18.8 17.6 14.8 11.4 7.81 4.72 3.22 220 26.2 27.5 25.2 20.1 14.3 3.30 5.84 3.85 18.2 11.9 16.5 5.22 6.57 5.39 6.71 5.25 6.51 5.20 6.53

59.5 61.5 63.5 67.5 63.5 57.5 37.5 41.5 43.5 42.5 51.5 53.5 43.5 31.5 23.5 21.5 23.5 17.5 13.5 USI's LITE*PRO U2.27E Point-By-Poin: Numeric Output 10:15 15-Mar-95 PROJECT: 63-210 AREA: STO?AGE ROOMS-N GRID: Seiling Values are FC, SCALE: 1 IN= 12.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 5.71 MAX/MIN= 12.03 FUE/MIN= AUE=14.7 MAX=30.9 + MIN=2.57

C8 (3) = K7993 COLUMBIA 3S7296, (2) F096/735, _LF= 0.66

150 115 15: 20: 218 218 22 185 140 164

151 124 127 25: 22 22 21 215 156 11.1

152 126 127 25: 22 22 21 215 156 11.1

153 126 127 25: 22 22 21 215 156 11.1 12.1 16.7 22.1 26.2 27.3 24.9 20.1 14.9 10.9 6.79 10.0 15.0 20.4 24.3 24.9 21.9 16.8 11.6 8.00 7.78 9.89 12.6 12.6 17.8 18.5 17.2 14.5 11.2 7.67 4.63 31.6 2.5 6.39 8.22 11. 15.2 13.8 23.5 24.6 22.5 18.2 13.1 8.69 5.54 3.71 2.8 8.55 :1.7 16.2 21.6 25.7 25.0 24.7 15.7 16.0 8.19 5.74 3.78 2.8 - 85 6

62.5 59.5 37.5 41.5 45.5 42.5 53.5 33.5 47.5 51.5 51.5 33.5 31.5 27.5 19.5 23.5 25.5 13.5 15.5

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:38 24-Jan-95 PROJECT: 63-210 AREA: DRYING ROOM GRID: Ceiling Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

8.16 MAX/MIN= 35.11 AUE,MIN= AUE=3.57 MAX=15.4 + MIN=0.43

Z1 <2> = B1401C PRESCOLITE PBX-TB12, (1) 100A19/IF, LLF= 0.76

Y-AXIS

13.0	0.64 0.93 0.65 0.43 0.43 0.65 0.93 0.93 0.64	0.93 0.93 0.64
11.0	1.78 2.83 2.83 1.80 0.85 0.85 1.80 2.83 2.83 1.78	2.83 2.83 1.78
9.0	3.88 8.69 8.69 3.92 1.63 1.63 3.92 8.69 8.69 3.88	3.69 8.69 3.88
7.0	5.57 15.4 15.4 5.63 2.05 2.05 5.63 15.4 15.4 5.57	15.4 15.4 5.57
0.	3.88 8.69 8.69 3.92 1.63 1.63 3.92 8.69 8.69 3.88	3.69 8.69 3.88
3.0	0 1.78 2.83 2.83 1.80 0.85 0.85 1.80 2.83 2.83 1.78	2.83 2.83 1.78
1.0	0.64 0.93 0.93 0.65 0.43 0.43 0.65 0.93 0.93 0.64	, + + + + 0,93 0.93 0.64

1.0 5.0 9.0 13.0 17.0 19.0 x-AXIS

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:10 24-Jan-95 PROJECT: 63-210 AREA: BREAK ROOM GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 . MAX=61.3 AUE=28.4 AUE/MIN=N/A MAX/MIN=N/A

11254 En

G <10> = K7965 COLUMBIA 2SG240-EXA.125NOM, (2) F40CW, LLF= 0.68 Z1 <1> = B1401C PRESCOLITE PBX-TB12, (1) 100A19/IF, LLF= 0.76

Y-AXIS 21.3 33.4 40.2 39.5 38.8 39.6 40.3 33.8 22.6 0.00 6.67 8.69 9.56 9.11 35.0 33.0 23.9 38.8 49.3 45.5 44.5 45.7 49.5 38.7 25.1 0.00 11.7 16.5 18.1 16.6 0.00 0.00 38.4 37.8 37.2 38.2 39.1 32.5 21.3 0.00 19.1 28.2 38.7 27.3 31.0 1.17 15.1 22.0 23.3 22.7 23.7 24.4 21.3 13.9 0.00 23.9 36.7 (3.1 34.5 29.0 3.39 8.63 10.7 11.6 11.2 11.6 12.8 5.86 1.64 0.00 22.5 34.7 27.0 2.30 3.39 6.05 6.15 5.91 5.81 33.6 10.3 2.25 0.00 0.53 0.94 23.3 19.5 25.0 23.0 1.94 26.0 32.7 35.1 32.0 12.4 5.59 1.64 0.00 0.87 6.15 15.7 25.7 38.6 48.7 51.7 46.1 35.1 24.5 18.2 14.5 15.6 17.1 16.3 12.4 21.0 19.0 25.3 38.8 52.0 60.0 61.3 57.0 48.8 37.8 28.7 23.1 26.1 30.1 29.1 21.7 3 4 4 6 3 8 0 3 1 6 3 6 1 4 3 9 4 3 0 32 2 17.0 37.4 50.9 55.8 51.4 47.0 50.6 54.7 51.1 40.4 34.0 39.1 47.6 46.7 35.2 15.0 13.0 11.0 9.0 35.8 47 8 48.9 40.4 35.1 40.5 49 2 48.9 39.8 34.0 39.4 48 0 47.0 35.2 2.0 33.0 44<u>3 45</u>.3 37.3 32.3 37.4 45<u>.6 45</u>.5 37.0 31.8 36.7 44<u>8 43</u>.8 32.6 5.0 3.0 9.0 13.0 17.0 21:0 25.0 7.0 11.0 15.0 19.0 23.0 27.0 X-AXIS USI's LITE*PRO V2.27E Point-By-Point Numeric Output 10:24 15-Mar-95 PROJECT: 63-210 AREA: BREAK ROOM-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

AUE=26.2 AUE/MIN=N/A MAX/MIN=N/A MAX=58.3 + MIN=0.00

G8 (10) = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66 Z1 (1) = B1401C PRESCOLITE PBX-TB12, (1) 100A19/IF, LLF= 0.76

Y-AXIS 35.0 19.9 31.2 37.8 36.3 36.8 36.4 37.9 31.5 21.0 0.00 5.91 7.74 8.31 8.08 22.5 36.3 44.6 41.9 42.5 42.1 44.7 36.1 23.4 0.00 10.6 15.5 17.3 15.4 33.0 0.00 0.00 36.2 34.8 35.4 35.1 36.8 30.3 19.7 0.00 17.8 26.7 38.5 25.6 31.0 1 10.8 12.5 0.00 22.6 35.1 (38) 32.6 29.0 27.0 10.2 10.6 12.8 5.82 1.61 0.00 21 73.6 10.3 2.23 0.00 0.44 0.80 22.7 18.5 25.0 23.0 21.0 43.0 32.9 21.0 15.2 12.2 13.8 15.7 15.1 11.2 53.0 45.9 33.6 24.8 20.4 23.4 28.0 27.3 20.1 19.0 17.0 15.0 32.1 42.4 44.1 38.2 32.8 37.8 43.8 42.5 34.2 28.1 33.5 40.8 40.3 30.9 13.0 6 42.6 35.4 29.6 35.4 42.5 42.0 34.1 28.1 33.6 40.9 40.4 31.0 11.0 0.0 7.0 30.7 416 42.1 33.5 30.3.33.5 42.1 42.0 33.2 30.0 33.0 416 41.1 30.3 5.0 3.0 13.5 16.6 16.8 14.7 12.6 14.7 16.9 16.9 14.6 12.5 14.5 16.6 16.3 13.3
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2.5 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:20 24-Jan-95 PROJECT: 63-210 AREA: OFFICE/TOOL RM GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HÓRZ CALC, Z= Computed in accordance with IES recommendations 3.72 MAX/MIN= AUE/MIN= AUE=34.8 MAX=67.6 + MIN=9.38

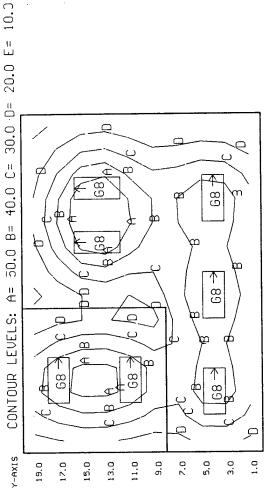
G <7> = K7965 COLUMBIA 2SG240-EXA.125NOM, <2> F40CW, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 13.0 17.0 21.0 25.0 27.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 X-AXIS

PRCJECT: 63-210 AREA: OFF/TÓOL RM-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRIJ (U), HORZ CA_C, Z= 2.5 Computed in accordance with IES recommendations USI's LITE*PRO U2.27E Point-By-Point Numeric Output 10:27 15-Mar-35

8.14 4.13 MAX/MIN= AUE/MIN= AUE=32.3 MAX=63.7 + MIN=7.82 G8 $\langle 7 \rangle$ = 9868 COLUMBIA T84PS2*-84-242-2EOCT, (2) F032/31K, LLF= 0.66



1.0 5.C 9.0 13.0 17.0 21.0 25.0 3.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 x-Axis

Bldg 63-410 Summary

_							_		
Replacement System	Total	Watts	2,482	1,054	340	308	1,180	510	5,874
	Number	Fixtures	73	31	10	14	20	15	163
	Watts/	Fixture	34	34	34	22	29	34	
	Fixture	Туре	8	8f	R8	T4	W2	W8	Totals
				Γ		T	T		
Present System	Total	Watts	1,488	4,312	882	416	308	240	7,646
	Number	Fixtures	31	88	21	8	41	9	168
	Watts/	Fixture	48	49	42	52	22	40	
	Fixture	Type	5	æ	2	22	4 7	T6	Totals

63-410 Schedule

4.2 人名德利德斯瓦 建聚酚洗涤剂 医毛毒素 [[25] **数**

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Type: Indoor Filename: 63-410

Luminaire Fixture Schedule / PRESENT

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers Prepared by: C. Warren

Project #6941331 Date: 30-Jan-95 UPD: 1.0W/Sq.Ft

V/W QTY REMARKS LAMP/BALLAST DESCRIPTION TYPE V 31 7"X4' 1L WET LOCATION WRAP 000 F40CW J1 LENS- PRISMATIC BOTTOM & SIDES ESB 48 COLUMBIA LUN140-WL 000 88 6"X4' 1L SURFACE CORRIDOR WRAP F40CW R LENS- PRISMATIC BOTTOM & SIDES ESB 49 COLUMBIA RO140-A V 21 000 5"X4' 1L SURFACE CORRIDOR WRAP F40CW/WM R1 LENS- SMOOTH WHITE ACRYLIC ESB 42 COLUMBIA AD140-A 8 / 000 5"X4"X4' 1L WALL CORRIDOR WRAP F40CW R2 LENS- SMOOTH WHITE ACRYLIC ESB 52 COLUMBIA W140-A 000 14 F9TT/27K 9" 2L SURFACE ROUND DOWNLIGHT Т4 LENS - OPTIONAL SPREAD LENS STD PRESCOLITE CFS8-472-SL8 000 6 F30T12/WW/RS 5"X4"X4' 1L WALL CORRIDOR WRAP Т6 LENS- SMOOTH WHITE ACRYLIC ESB 40 COLUMBIA W140-A

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-410 Type: Indoor

Luminaire Fixture Schedule / PROPOSED

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.8W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
18	3"X4' 1L SM HSG SURFACE STRIP OPEN BOTTOM- NO SHIELDING COLUMBIA CH140	FO32/35K EOCT	000 - 34	39	
т8	8"X4' 1L DAMP LOCATION WRAP LENS- PRISMATIC BOTTOM & SIDES COLUMBIA LUN140-DMR	FO32/35K EOCT	000 - 34	25	
R8	6"X4'1L SURFACE SPEC.HSG. WRAP LENS- PRISMATIC BOTTOM & SIDES COLUMBIA RO140-A-SPREF	FO32/35K EOCT	000 - 34	10	
T4	9" 2L SURFACE ROUND DOWNLIGHT LENS - OPTIONAL SPREAD LENS PRESCOLITE CFS8-472-SL8	F9TT/27K STD	000	10	
W2	8"X4' 2L CEILING MT.WRAPAROUND LENS- PRISMATIC BOTTOM & SIDES COLUMBIA AW240-A	FO32/35K EOCT	000 - 59	20	
W8	5"X4"X4' 1L WALL CORRIDOR WRAP LENS- SMOOTH WHITE ACRYLIC COLUMBIA W140-A	FO32/35K EOCT	000	12	

63-410A Schedule

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Luminaire Fixture Schedule
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-410A Type: Indoor

Luminaire Fixture Schedule / PROPOSED

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.8W/Sq.Ft

TYPE	DESCRIPTION	LAMP/BALLAST	V/W	QTY	REMARKS
18	3"X4' 1L SM HSG SURFACE STRIP OPEN BOTTOM- NO SHIELDING COLUMBIA CH140	FO32/35K EOCT	000 - 34	34	
тя	8"X4' 1L DAMP LOCATION WRAP LENS- PRISMATIC BOTTOM & SIDES COLUMBIA LUN140-DMR	FO32/35K EOCT	000	6	
T4	9" 2L SURFACE ROUND DOWNLIGHT LENS - OPTIONAL SPREAD LENS PRESCOLITE CFS8-472-SL8	F9TT/27K STD	000	4	
w8	5"X4"X4' 1L WALL CORRIDOR WRAP LENS- SMOOTH WHITE ACRYLIC COLUMBIA W140-A	FO32/35K EOCT	000 - 59	3	

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-410 Type: Indoor

Project Area Summary

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95

UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	LUI	MINAIRES	W/SQ.FT	QTY
ENTRANCE	12x12x9Ft	(2)	Type R1	0.6]
ENTRANCE-N	12x12x9Ft	(2)	Type I8	0.5	1
ALCOVE	4x6x9Ft	(1)	Type R1	1.8	1
.COVE-N	4x6x9Ft	(1)	Type I8	1.4	
LOCKER ROOM 1	32x19x9Ft	(10) (3)	Type R Type R2	1.1	:
LOCKER ROOM 1-N	32x19x9Ft	(10)	Type I8 Type W8	0.7	
SHOWERS 1	32x19x9Ft	(10)	Type J1	0.8	
SHOWERS 1-N	32x19x9Ft	(10)	Type J8	0.6	
LOCKER 2	16x26x9Ft	(7)	Type R Type R2	0.9	
LOCKER 2-N	16x26x9Ft	(7)	Type I8 Type W8	0.7	
SHOWERS 2	16x20x9Ft	(6)	Type J1	0.9	
SHOWERS 2-N	16x20x9Ft	(6)	Type J8	0.6	
LOCKER ROOM & 3	7x23x8Ft	(3)	Type R Type T4	1.1	
CKER ROOM 2-N	7x23x8Ft	(3)	Type I8 Type T4	0.8	
RESTROOM 1	5x16x8Ft	(2)	Type R Type R2	1.9	

Page 2

63-410 Areas	5x16x8Ft	(1)	Type I8 Type W8	0.9	1
ALCOVE 4	6x4x9Ft	(1)	Type T4	1.0	1
ALCOVES 5 & 6	11x4x9Ft	(2)	Type T4	1.0	1
OPEN AREA/RR 2	10x27x8Ft	(2) (2) (1)	Type R Type R1 Type R2	0.9	1
OPN AREA/RR 2-N	10x27x8Ft	(4)	Type R8 Type W8	0.6	1
ALCOVE 7	7x4x8Ft	(1)	Type R	1.8	1
ALCOVE 7-N	7x4x8Ft	(1)	Type I8	1.2	1
HALLWAY 1	22x6x9Ft	(2)	Type R	0.7	1
HALLWAY 1-N	22x6x9Ft	(2)	Type R8	0.5	1
OFFICE 1/KTCHN	21x9x9Ft	(6) (1)	Type R Type T6	1.8	1
OFFCE 1/KTCHN-N	21x9x9Ft	(6) (1)	Type W2 Type W8	2.1	1
BREAK ROOM	30x21x9Ft	(12)	Type R	0.9	1
BREAK ROOM-N	30x21x9Ft	(8)	Type W2	0.7	1
OFFICES 3 & 4	19x12x9Ft	(6)	Type R1	1.1	1
OFFICES 3 & 4-N	19x12x9Ft	(6)	Type W2	1.6	1
MENS TOILET	10x12x8Ft	(2) (1) (1)	Type R Type T4 Type T6	1.3	1
MENS TOILET-N	10x12x8Ft	(2) (1) (1)	Type I8 Type T4 Type W8	1.0	1
HALL/JAN/RR ENT	24x10x9Ft	(3)	Type R Type T4	0.8	1
HALL/JAN/RR-N	24x10x9Ft	(3)	Type R8 Type T4	0.6	1
WOMENS TOILET	10x9x9Ft	(2)	Type R1 Type T6	1.4	1
WOMENS TOILET-N	10x9x9Ft	(2)	Type I8 Type W8	1.1	1
ENTRANCE 2	8x9x9Ft	(1)	Type R1	0.6	1

Page 3

NOTES:

63-410 Areas	8x9x9Ft	(1)	Type R8	0.5	1
WOMENS ALCOVE	4x5x8Ft	(1)	Type T4	1.1	1
MENS ALCOVE	4x5x9Ft	(1)	Type T4	1.1	1
MENS CHANGE	32x20x9Ft	(10) (3)	Type R Type T6	1.0	1
MENS CHANGE-N	32x20x9Ft	(10) (3)	Type I8 Type W8	0.7	1
MENS SHOWER	32x20x9Ft	(9) (1)	Type J1 Type T4	0.7	1
MENS SHOWER-N	32x20x9Ft	(9) (1)	Type J8 Type T4	0.5	1

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Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Area Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-410A Type: Indoor

Project Area Summary

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95

UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	LUMINAIRES	W/SQ.FT	QTY
ALCOVE 10	4x12x8Ft	(2) Type T4	0.9	1
OPEN AREA 2	10x10x8Ft	(2) Type R	1.0	1
OPEN AREA 2-N	10x10x8Ft	(2) Type I8	0.7	1
STROOM 5	16x5x8Ft	(2) Type R (1) Type R1	1.8	1
RESTROOM 5-N	16x5x8Ft	(2) Type I8 (1) Type W8	1.6	1
WOMENS LOCKERS	20x20x9Ft	(6) Type R (1) Type R2	0.9	1
WOMENS LOCKRS-N	20x20x9Ft	(6) Type I8 (1) Type W8	0.7	1
WOMENS SHOWERS	20x20x8Ft	(6) Type J1	0.7	1
WOMENS SHWERS-N	20x20x8Ft	(6) Type J8	0.5	1
WOMENS TOILET	16x10x8Ft	(3) Type R (1) Type R2	1.2	1
WOMENS TOILET-N	16x10x8Ft	(3) Type I8 (1) Type W8	1.0	1
TOILET ALCOVE	10x6x8Ft	(1) Type R	0.8	1
TOILET ALCOVE-N	10x6x8Ft	(1) Type I8	0.6	1
TRANCE ALCOVE	4x6x8Ft	(1) Type T4	0.9	1
ICE MACHINE	10x10x9Ft	(2) Type R (1) Type T4	1.2	1

Page 2 63-410A Areas			_			a !
CE MACHINE-N	10x10x9Ft	(2	2) 1) 	Type I8 Type T4	0.9	
CLOTHING ISSUE	18x10x9Ft	(6	6)	Type R1	1.4	1
CLOTHNG ISSUE-N	18x10x9Ft	((6)	Type I8	1.1	1
MASK STORAGE	19x26x12Ft	(:	12)	Type R	1.2	1
MASK STORAGE-N	19x26x12Ft	(:	12)	Type I8	0.8	1
NOTES:						

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63-410 Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary
Generated by LitePro V2.27E
Provided and supported by USI Lighting, Inc.
Filename: 63-410 Type: Indoor

Project Calculation Summary

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers

Prepared by: C. Warren

Project #6941331 Date: 15-Mar-95 UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	GRID NAME	λ	/E	MAX	MIN
ENTRANCE	12x12x9Ft	Ceiling	<+>	4.8	8.9	2.2
ENTRANCE-N	12x12x9Ft	Ceiling	<+>	10.8	14.6	7.5
LCOVE	4x6x9Ft	Ceiling	<+>	6.6	7.5	6.2
ALCOVE-N	4x6x9Ft	Ceiling	<+>	12.6	13.5	12.1
LOCKER ROOM 1	32x19x9Ft	Ceiling	<+>	23.2	35.5	12.3
LOCKER ROOM 1-N	32x19x9Ft	Ceiling	<+>	22.3	33.9	13.3
SHOWERS 1	32x19x9Ft	Ceiling	<+>	14.4	17.7	7.5
SHOWERS 1-N	32x19x9Ft	Ceiling	<+>	13.1	16.1	6.9
LOCKER 2	16x26x9Ft	Ceiling	<+>	15.7	23.3	0.0
LOCKER 2-N	16x26x9Ft	Ceiling	<+>	15.0	21.4	0.0
SHOWERS 2	16x20x9Ft	Ceiling	<+>	15.1	18.0	11.3
SHOWERS 2-N	16x20x9Ft	Ceiling	<+>	13.8	16.4	10.3
LOCKER ROOM 2	7x23x8Ft	Ceiling	<+>	16.8	25.7	5.1
LOCKER ROOM 2-N	7x23x8Ft	Ceiling	<+>	15.4	21.8	5.2
RESTROOM 1	5x16x8Ft	Ceiling	<+>	23.1	33.2	13.7
ESTROOM 1-N	5x16x8Ft	Ceiling	<+>	14.0	21.3	6.9
ALCOVE 4	6x4x9Ft	Ceiling	<+>	6.7	7.1	6.3
ALCOVES 5 & 6	11x4x9Ft	Ceiling	<+>	8.3	9.7	7.0

Page 2						
63-410 Calculations PEN AREA/RR 2	10x27x8Ft	Ceiling	<+>	8.7	30.0	0.0
OPN AREA/RR 2-N	10x27x8Ft	Ceiling	<+>	11.8	28.1	0.0
ALCOVE 7	7x4x8Ft	Ceiling	<+>	16.0	18.0	13.9
ALCOVE 7-N	7x4x8Ft	Ceiling	<+>	14.0	15.8	12.2
HALLWAY 1	22x6x9Ft	Ceiling	<+>	10.1	12.7	5.3
HALLWAY 1-N	22x6x9Ft	Ceiling	<+>	9.4	11.5	5.0
OFFICE 1/KTCHN	21x9x9Ft	Ceiling	<+>	21.6	30.0	9.8
OFFCE 1/KTCHN-N	21x9x9Ft	Ceiling	<+>	38.3	51.1	17.3
BREAK ROOM	30x21x9Ft	Ceiling	<+>	20.0	21.8	16.4
BREAK ROOM-N	30x21x9Ft	Ceiling	<+>	25.6	33.2	14.4
OFFICES 3 & 4	19x12x9Ft	Ceiling	<+>	7.7	9.5	5.6
OFFICES 3 & 4-N	19x12x9Ft	Ceiling	<+>	33.1	42.1	22.8
YENS TOILET	10x12x8Ft	Ceiling	<+>	18.1	26.0	9.8
MENS TOILET-N	10x12x8Ft	Ceiling	<+>	16.7	22.2	10.4
HALL/JAN/RR ENT	24x10x9Ft	Ceiling	<+>	9.7	16.5	0.0
HALL/JAN/RR-N	24x10x9Ft	Ceiling	<+>	9.1	14.9	0.0
WOMENS TOILET	10x9x9Ft	Ceiling	<+>	9.8	13.3	5.9
WOMENS TOILET-N	10x9x9Ft	Ceiling	<+>	18.1	21.9	13.4
ENTRANCE 2	8x9x9Ft	Ceiling	<+>	4.3	5.8	3.0
ENTRANCE 2-N	8x9x9Ft	Ceiling	<+>	9.2	10.2	7.9
WOMENS ALCOVE	4x5x8Ft	Ceiling	<+>	8.6	9.4	8.0
MENS ALCOVE	4x5x9Ft	Ceiling	<+>	6.9	7.3	6.6
MENS CHANGE	32x20x9Ft	Ceiling	<+>	19.1	23.3	10.4
MENS CHANGE-N	32x20x9Ft	Ceiling	<+>	19.2	26.2	12.0
MENS SHOWER	32x20x9Ft	Ceiling	<+>	12.4	16.9	5.1
ENS SHOWER-N	32x20x9Ft	Ceiling	<+>	11.3	15.5	4.6

63-410A Calculations

Reynolds, Smith & Hills, Inc. 4651 Salisbury Road Jacksonville, FL 32256 Buildings Engineering

Project Calculation Summary Generated by LitePro V2.27E Provided and supported by USI Lighting, Inc. Type: Indoor Filename: 63-410A

Project Calculation Summary

Project name: PBA Lighting Survey - Bldg 63-410

Prepared for: Corps of Engineers Prepared by: C. Warren

|Project #6941331 Date: 15-Mar-95 UPD: 0.9W/Sq.Ft

AREA NAME	DIMENSIONS	GRID NAME	AV	Æ	MAX	MIN
ALCOVE 10	4x12x8Ft	Ceiling	<+>	9.1	10.6	7.3
OPEN AREA 2	10x10x8Ft	Ceiling	<+>	17.2	24.3	11.2
PEN AREA 2-N	10x10x8Ft	Ceiling	<+>	15.4	20.2	11.7
RESTROOM 5	16x5x8Ft	Ceiling	<+>	19.5	24.2	14.2
RESTROOM 5-N	16x5x8Ft	Ceiling	<+>	17.2	19.4	13.7
WOMENS LOCKERS	20x20x9Ft	Ceiling	<+>	17.6	26.5	10.1
WOMENS LOCKRS-N	20x20x9Ft	Ceiling	<+>	16.8	25.0	11.2
WOMENS SHOWERS	20x20x8Ft	Ceiling	<+>	13.2	18.4	6.2
WOMENS SHWERS-N	20x20x8Ft	Ceiling	<+>	11.8	16.4	5.5
WOMENS TOILET	16x10x8Ft	Ceiling	<+>	18.8	33.0	3.0
WOMENS TOILET-N	16x10x8Ft	Ceiling	<+>	16.9	30.5	2.9
TOILET ALCOVE	10x6x8Ft	Ceiling	<+>	11.8	16.0	8.6
TOILET ALCOVE-N	10x6x8Ft	Ceiling	<+>	10.2	13.8	7.7
ENTRANCE ALCOVE	4x6x8Ft	Ceiling	<+>	8.2	9.1	7.7
ICE MACHINE	10x10x9Ft	Ceiling	<+>	17.7	23.2	11.8
E MACHINE-N	10x10x9Ft	Ceiling	<+>	15.9	20.6	11.2
CLOTHING ISSUE	18x10x9Ft	Ceiling	<+>	11.5	15.6	8.1
CLOTHNG ISSUE-N	18x10x9Ft	Ceiling	<+>	26.7	31.3	22.2
CLOTING ISSUE-N	10%10%9FC					

Page 2

63-410A Calculations	19x26x12Ft	Ceiling	<+>	21.8	27.9	15.1
MASK STORAGE-N	19x26x12Ft	Ceiling	<+>	20.6	24.1	15.7
MASK STOKAGE II					. _	

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:59 26-Jan-95 PROJECT: 63-410 AREA: ENTRANCE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

2.21 MAX/MIN= AUE/MIN= AUE=4.83 MAX=8.86 + MIN=2.18

R1 <2> = K8956 COLUMBIA AD140-A, <1> F40CW/WM, LLF= 0.68

Y-AXIS

2.24	2.52	2.57	2.21	2.23
+ .58	+ 5.44	5.56	+ 4.61	+ + + 4.14 2.23
+ 2	8 22 8	4.8.76	7.22	+ 6.25
+ 7.1.721	+ 8.68	+ 8.86	7.30	+ + + + + + + 4.26 6.31 6.25
+ 4.72 [+ 5.62	5,75	+ ¹ 4.76	+ 4.26
2.33	2.63	+ 2.69	2.30	+ 2.31
0.0	7.0	5.0	3.0	1.0
	2.33 4.72 Z.17217.09 4.58	2.33 4.72 Z.1217.03 4.58 + + + + + + + + + + + + + + + + + + +	2.33 4.72 Z.1Z17.03 4.58 + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + +

1.0 5.0 9.0 3.0 7.0 11.0 X-AXIS USI's LITE*FRO U2.27E Point-By-Point Numer:c Output 11:40 15-Mar-95 PROJECT: 63-410 AREA: ENTRANCE-N GRID: Ceiling 2.5 Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HCRZ CALC, Z= Computed in accordance with IES recommendations

+ MIN=7.50 MAX=14.6 AUE=10.8 AUE.MIN= 1.45 MAX.MIN=

1.94

I8 <2> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

1.0 5.0 9.0 3.0 7.0 11.0 X-AXIS

that we wall distribute from the sign is the contraction of

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:09 26-Jan-95 PROJECT: 63-410 AREA: ALCOUE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.16 MAX=7.54 AUE=6.65 AUE.MIN= 1.08 MAX.MIN= 1.0

R1 <1> = K8956 COLUMBIA AD140-A, (1) F40CW/WM, LLF= 0.68

Y-AXIS

and the second of the second second

1.0 3.0 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 11:41 15-Mar-95 PROJECT: 63-410 AREA: ALCOVE-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HCRZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=12.1 YAX=13.5 ALE=12.6 AUE.MIN= 1.04 MAX.MIN=

1.12

I8 <1> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

1.0 3.0 X-AXIS

in the rest of the Comment of the second of the second

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:15 26-Jan-95 PROJECT; 63-410 AREA: LOCKER ROOM 1 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= Computed in accordance with IES recommendations 2.88 1.88 MAX/MIN= AUE/MIN= AUE=23.2 MAX=35.5 + MIN=12.3

R <10> = K8948A COLUMBIA R0140-A, <1> F40CW, LLF= 0.68 R2 <3> = K8958 COLUMBIA W140-A, <1> F40CW, LLF= 0.60

Y-AXIS

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 31.0 3.0 7.0 11.0 15.0 19.0 27.0 31.0 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 11:43 15-Mar-95 PROJECT: 63-410 AREA: LOCKER ROOM 1-N GRID: Ce:ling Ualues are FC, SCALE: : IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Conputed in accordance with IES recommendations

I8 <10> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 u8 <3> = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 31.3 3.0 15.0 15.0 27.0 31.3 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:12 26-Jan-95[.] PROJECT: 63-410 AREA: SHOWERS 1 GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=7.53 MAX=17.7 AUE=14.4 AUE\MIN= 1.91 MAX\MIN=

JI <10> = K9798X COLUMBIA LUN140-WL, (1) F40CW, LLF= 0.68

11.2 13.4 14.9 15.7 16.3 16.6 16.5 16.5 16.3 15.7 14.9 13.5 11.5 11.1 11.3 10.5 11.41.41445516.317.917.217.117.417.416.916.916.415.815.413.510.9 11.6 14.3 16.0 16.7 17.4 17.6 17.5 17.7 17.2 17.3 16.9 16.1 15.4 13.7 10.9 11.2 13.4 14.9 15.7 16.3 16.6 16.6 16.6 16.4 16.0 15.8 15.6 15.2 14.2 12.7 10.5 10.8 12.7 14.2 15.0 15.6 15.8 15.8 15.8 15.6 15.1 14.5 13.4 14.2 13.2 11.3 9.99 11.5 14.1 15.7 16.3 17.0 17.2 17.1 17.2 16.9 16.0 14.9 13.0 9.83 9.92 11.2 10.7 10,6 12.5 13.8 14.4 14.9 15.2 15.2 15.3 15.0 14.3 12.7 10.2 7.97 10.5 12.5 13.7 14.4 14.9 15.2 15.3 15.5 15.4 15.2 15.0 14.5 13.9 13.2 11.9 10.0 5.5 17.5 15.5 7.5 Y-AXIS 13.5 11.5 1.5 9.5

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 31.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 31.0 x-AXIS

2.5 11:39 15-Mar-95 Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRIJ (U), HORZ CALC, USI's LITE*PRO U2.27E Point-By-Point Numeric Output PRCJECT: 63-410 AREA: SHOWERS 1-N GRID: Ceiling Computed in accordance with IES recommendations

+ MIN=6.87 MAX=16.1 AUE=13.1 AUE>MIN= 1.91 MAX/MIN= 2.

J8 (10) = K9798 COLUMBIA LUN140-DMR, (1) FC32/35K, LLF= 3.67

Y-AXIS

15.5 9.41 1... 4 12.5 13.1 13.6 13.9 14.0 14.1 14.0 13.9 13.7 13.3 12.7 12.1 10.9 9.14

15.5 10.4 12.9 14.2 15.2 15.8 15.4 15.2 15.6 15.9 15.4 15.4 15.4 15.7 12.1 10.9 9.14

13.5 10.6 13.1 14.5 15.2 15.8 16.1 16.0 16.1 16.1 15.7 15.8 15.4 14.7 14.0 12.5 9.95

11.5 10.2 12.2 13.5 14.4 14.9 15.1 15.1 15.0 14.6 14.4 14.2 13.8 13.0 11.6 9.54

9.5 9.86 1... 6 12.9 13.7 14.2 14.4 14.4 14.4 14.2 13.8 13.2 12.2 12.9 12.1 10.3 9.1.

7.5 10.2 12.2 13.5 14.4 14.9 15.1 15.1 15.1 14.8 14.3 13.6 12.3 10.5 10.1 10.3 9.60

5.5 10.6 13.4 14.9 15.1 15.1 15.1 14.8 14.3 13.6 12.3 10.5 10.1 10.3 9.60

5.5 10.6 13.4 14.9 15.1 15.1 15.1 16.1 14.8 14.3 13.6 12.3 10.5 10.1 10.3 9.60

5.6 10.4 12.9 14.3 14.9 15.5 15.7 15.6 15.7 15.4 14.6 13.6 11.8 8.56 9.05 10.2 9.73

1.5 9.65 1... 4 12.5 13.2 13.6 13.9 13.9 13.7 13.0 11.6 9.31 7.27 6.87 7.62 7.68

1.0 5.C 9.0 13.0 17.0 21.0 25.0 29.0 31.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 31.0 $x + \epsilon x 15$

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:29 26-Jan-95 PROJECT: 63-410 AREA: LOCKER 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=23.3 AUE=15.7 AUE/MIN=N/A MAX/MIN=N/A

R < 7 > = K8948A COLUMBIA RO140-A, (1) F40CW, LLF= 0.68 R2 < 1 > = K8958 COLUMBIA W140-A, (1) F40CW, LLF= 0.60

Y-AXIS 25.0 13.3 1<u>3.</u>6 13.7 13.2 13.2 13.8 1<u>3.</u>6 13.3 23.0 16.5 12 3 17.3 16.2 16.2 17.2 12 3 16.5 21.0 18.7 19.6 19.6 18.4 18.4 19.7 19.6 18.6 19.0 20.0 20.7 20.9 19.7 19.7 20.9 20.8 20.0 17.0 20.7 21.7 21.7 20.4 20.5 21.8 21.8 20.9 15.0 20.7 20 8 21.9 20.7 20.9 22.2 22.2 21.2 13.0 20.1 20.9 21.6 20.7 20.9 22.4 22.0 21.2 11.0 18.9 20.7 20.5 21.0 22.8 22.5 21.4 9.0 16.9 18.2 19.4 19.6 21.3 23.3 22.4 21.2 7.0 17.0 18(87) Had 20.4 21.4 20.2 0.00 0.00 0.00 0.00 0.00 0.00 12 9 18.0 5.0 0.00 0.00 0.00 0.00 0.00 1.26 15 0 15.1 0.00 0.00 0.00 0.00 0.00 0.25 10 5.0 9.0 13.0 3.0 7.0 11.0 15.0 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 11:45 15-Mar-95 PROJECT: 63-410 AREA: LOCKER 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=21.4 AUE=15.0 AUE/MIN=N/A MAX/MIN=N/A

I8 $\langle 7 \rangle$ = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 W8 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

Y-AXIS 25.Û 23.0 16.3 14.9 16.8 16.4 16.4 16.8 14.9 16.3 21.0 17.9 18 7 18.6 18.1 18.1 18.6 18 7 17.9 19.0 19.0 19.7 19.6 19.2 19.3 19.6 19.7 19.1 19.7 20.4 20.3 19.9 20.0 20.4 20.5 19.8 15.0 19.5 20 5 20.5 20.1 20.3 20.8 20 9 20.1 13.0 18.9 19.8 20.2 20.2 20.3 20.9 20.8 20.1 11.0 18.0 19.1 19.3 20.0 20.3 21.1 2 0 20.2 9.0 16.4 17.4 18.4 19.2 20.5 21.4 20.7 19.9 16.5 18CKOTH- 18.9 19.7 18.8 0.00 0.00 0.00 0.00 0.00 0.00 1499 16.6 0.00 0.00 0.00 0.00 0.00 0.91 13 1 14.0 0.00 0.00 0.00 0.00 0.00 0.27 9.28 Production of the contraction of

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:48 27-Jan-95 PROJECT: 63-410 AREA: RESTROOM 1 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=13.7 MAX=33.2 AUE=23.1 AUE/MIN= 1.69 MAX/MIN= 2.43

R $\langle 2 \rangle$ = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 R2 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F40CW, LLF= 0.60

Y-AXIS

0.5 4.5 2.5 X-AXIS

在一次中的1000 · 网络一种中部一种中部建筑特别的中部中

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:16 15-Mar-95 PROJECT: 63-410 AREA: RESTROOM 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=9.45 MAX=25.7 AUE=17.7 AUE/MIN= 1.87 MAX/MIN= 2.72

I8 $\langle 1 \rangle$ = 10333 COLUMBIA CSR140-PAF-EOCT, (1) F032/35K, LLF= 0.66 W8 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

Y-AXIS 15.0 ₽.88 12.3 16.¢ .13.0 2.5 16.5 11.0 20.8 9.0 7.0 259.7 25. 23.0 5.0 19.3 3.0 14.6 13.3 1.0 4.5 0.5 2.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:47 15-Mar-95 PROJECT: 63-410 AREA: RESTROOM 1-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.87 MAX=21.3 AUE=14.0 AUE/MIN= 2.04 MAX/MIN= 3.09

I8 $\langle 1 \rangle$ = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 W8 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

Y-AXIS 15.0 11.0 13.0 14.5 11.0 9.0 7.0 1**H** 0 19. 5.0 3.0 1.0 6.88 4.5 0.5 2.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:18 27-Jan-95 PROJECT: 63-410 AREA: LOCKER ROOM 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=5.11 MAX=25.7 AUE=16.8 AUE/MIN= 3.30 MAX/MIN= 5.02

R $\langle 3 \rangle$ = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 T4 $\langle 1 \rangle$ = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS

21.5	+ 5. 83	+ 9.87_	+ 9 . 90	+ 5.90
19.5	+ 5.11	9.87 + 12.7	+ 12.7	+ 5.18
17.5	+ 8.89	16.1	+ 16.1	+ 8.93
15.5	+ 3.1	16.1 18.5	+ 18.5	+ 13.2
13.5	+ 7.2	+ 20.3	+ 20.4	+ 17.3
11.5	+ 8.2	21.7	21.7	+ 18. 1
9.5	+ 9.6	+ 1 23.9	+ 24.0	+ 19.9
7.5	+ 20.8	+ 25.6	+ 25.7	+ 21.0
5.5	+ 20.2	+ 24.9 + 21.1	+ 24.9	+ 20.5
3.5				
1.5	+ 3.3	+ 15.2	+ 15.2	+ 13.
	0.5	2.5	4.5	6. 5
		X-A	XIS	-

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:49 15-Mar-95 PROJECT: 63-410 AREA: LOCKER ROOM 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=5.23 MAX=21.8 AUE=15.4 AUE/MIN= 2.93 MAX/MIN= 4.16

I8 $\langle 3 \rangle$ = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 T4 $\langle 1 \rangle$ = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS . 21.5 19.5 5.3₀ 17.5 8.0 .99 14.5 14.6 15.5 16.2 12. 2.0 16.1, 13.5 11.5 7.4 18.6 18.7 17.5 9.5 20.4 20.4 18.6 7.5 19. 5.5 21.2 19.0 3.5 6.8 18.6 18.6 16.\$ 1.5 14.3 13.9 14.3

0.5 4.5 2.5 6.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:37 26-Jan-95 PROJECT: 63-410 AREA: SHOWERS 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

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1.34 MAX/MIN= 1.60 AUE/MIN= + MIN=11.3 MAX = 18.0AUE=15.1

J1 (6) = K9798X COLUMBIA LUN140-WL, (1) F40CW, LLF= 0.68

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V_{-}	Ω	·Y	Ĺ	С.
1 -	п	Λ	П	J

. 1								
19.0	+ 11.8	12.2	11.9	11.3	11.3	11.9	12.2	+ 11.8
17.0	1	15,0					111	1
15.0	+ 15.7	16.7	+ 16.1	+ 14.9	+ 14.9	+ 16.1	16.7	+ 15. <i>7</i>
13.0	+ 16.5	173	+ 16.8	+ 15.7	+ 15.7	+ 16.8	173	+ 16.5
11.0	+ 17.1		+ 17.4	+ 16.1	+ 16.1	+ 17.4	18.0	+ 17.1
9.0	+ 17.1	18.0	+ 17.4	+ 16.1	+ 16.1	+ 17.4	18.0	+ 17.1
7.0	16.5	17,3	+ 16.8	+ 15.7	15.7	+ 16.8	173	+ 16.5
5.0	+ 15.7	16,7	+ 16.1	+ 14.9	+ 14.9	+ 16.1	16.7	+ 15.7
3.0	+ 14.3	15.0	+ 14.5	+ 13.4	+ 13.4	+ 14.5	15 . 0	+ 14.3
1.0	+ 11.8	12.2	11.9	+ 11.3	+ 11.3	11.9	+ 12.2	+ 11.8
	1.0	3.0	5.0	7.0 X-6	9.0 21X	11.0	13.0	15.0

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:19 15-Mar-95 PROJECT: 63-410 AREA: SHOWERS 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=10.3 MAX=16.4 AUE=13.8 AUE/MIN= 1.34 MAX/MIN= 1.60

J8 $\langle 6 \rangle$ = K9798 COLUMBIA LUN140-DMR, (1) F032/35K, LLF= 0.67

Y-AXIS								
19.0	+ 10.8	1 1 1	+ 10.9	10.3	10.3	+ 10.9	+ 1 1 1	+ 10.8
17.0	13.0	171					13.7	i
15.0	+ 14.3	15.2	+ 14.7	+ 13.6	+ 13.6	+ 14.7	15.2	+ 14.3
13.0	+ 15.0	15,8	+ 15.4	+ 14.3	+ 14.3	+ 15.4	158	+ 15.0
11.0	+ 15.6	164	15.9	+ 14.7	+ 14.7	+ 15.9	164	+ 15.6
9.0	+ 15.6	16.4	15.9	14.7	+ 14.7	15.9	16.4	+ 15.6
7.0	+ 15.0	1 5 8	+ 15.4	14.3	+ 14.3	+ 15.4	1 5 8	15.0
5.0	+ 14.3	15.2	+ 14.7	+ 13.6	13.6	+ 14.7	152	+ 14.3
3.0	+ 13.0	13.7	13.2	12.2	+ 12.2	+ 13.2	13.7	13.0
1.0	+ 10.8	+ 11.1	+ 10.9	10.3	10.3	10.9	+ 11.1	+ 10.8
	1.0	3.0	5.0	7.0 X-6		11.0	13.0	15.0

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:21 27-Jan-95 PROJECT: 63-410 AREA: ALCOVE 4 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 1.12 1.06 MAX/MIN= AUE/MIN= AUE=6.71 MAX=7.09 + MIN=6.34

T4 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:24 27-Jan-95 PROJECT: 63-410 AREA: ALCOUES 5 & 6 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 1.18 MAX/MIN= AUE/MIN= AUE=8.33 MAX=9.74 + MIN=7.05

14 (2) = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

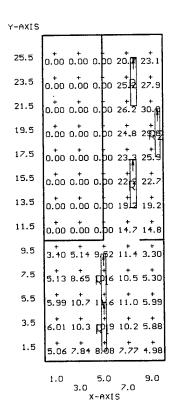
Y-AXIS

1.5 5.5 9.5 3.5 7.5 X-AXIS USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:44 27-Jan-95 PROJECT: 63-410 AREA: OPEN AREA/RR 2 GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

The same is a second of the same of the sa

+ MIN=0.00 MAX=30.0 AUE=8.69 AUE/MIN=N/A MAX/MIN=N/A

R $\langle 2 \rangle$ = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 R1 $\langle 2 \rangle$ = K8956 COLUMBIA AD140-A, (1) F40CW/WM, LLF= 0.68 R2 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F40CW, LLF= 0.60



one is a few properties on the expression of the properties of the

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 11:50 15-Mar-95 PROJECT: 63-410 AREA: OPN AREA/RR 2-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=28.1 AUE=11.8 AUE/MIN=N/A MAX/MIN=N/A

R8 $\langle 4 \rangle$ = L10654 COLUMBIA R0140-A-SPREF, (1) F032/35K, LLF= 0.67 W8 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

Y-AXIS 25.5 0.00 0.00 0.00 18.8 21.6 23.5 0.00 0.00 0.00 22826.0 21.5 ก.กก ก.กก ก.ทก 23.7 0.00 0.00 0.00 23.2 28 17.5 0.00 0.00 0.00 21 8 24 15.5 0.00 0.00 0.00 20 5 22.2 13.5 5.e1 Let ad.a ao.a ao.a 11.5 0.00 0.00 0.00 17.9 16.5 9.5 9.42 13.4 16 8 18.1 9.05 7.5 13.2 18.5 190 19.9 13.0 15.2 21.8 2 9 22.0 15.0 3.5 15.1 21.3 2003 21.2 14.8 1.5 13.0 17.6 18.9 17.5 12.8 5.0 3.0 7.0 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:50 27-jan-95 PROJECT: 63-410 AREA: ALCOVE 7 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=13.9 MAX=18.0 AUE=16.0 AUE.MIN= 1.15 MAX.MIN= 1.0

R <1> = K8948A COLUMBIA R0140-A, <1> F40CW, LLF= 0.68

Y-AXIS

USI's LITE*FRO U2.27E Point-By-Point Numeric Output 11:52 15-Mar-95 PROJECT: 63-410 AREA: ALCOUE 7-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HCRZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.30 1.15 MAX/MIN= AUE/MIN= AUE=14.0 MAX=15.8 + MIN=12.2

I8 (1) = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

A \$1.00 (1988) 1987 (1987) 1987 (1987) 1987 (1987) 1987 (1987) 1987 (1987) 1987 (1987) 1987 (1987) 1987 (1987)

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:57 27-Jan-95 PROJECT: 63-410 AREA: HALLWAY 1 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

2.38 1.90 MAX/MIN= AUE/MIN= AUE=10.1MAX = 12.7+ MIN=5.31

R <2> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68

Y-AXIS

21.0 19.0 13.0 X-AXIS 0.6 7.0 . 2 3.0 1.0

2,5 13:51 15-Mar-95 USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:51 15-Mar PRCJECT: 63-410 AREA: HALLWAY 1-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRIJ (U), HORZ CALC, Z=Computed in accordance with IES recommendations

+ PIN=4.95 MAX=11.5 AUE=9.37 AUE/MIN= 1.89 MAX/MIN=

2.32

R8 <2> = L10654 COLUMBIA R0140-A-SPREF, <1> F032/35K, LLF= 0.67

Y-AXIS

1.0 5.0 9.0 13.0 17.0 21.0 3.0 3.0 7.0 11.0 5.0 19.0 X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:22 27-Jan-95 PROJECT: 63-410 AREA: OFFICE 1/KTCHN GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

3.05 2.19 MAX/MIN= AUE/MIN= AUE=21.6 MAX=30.0 + MIN=9.83

R <6> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 T6 <1> = K8958 COLUMBIA W140-A, (1) F30T12/WW/RS, LLF= 0.60

Y-AXIS

+ + + + 24,4R 23.4	+ + + + + + + + + + + + + + + + + + +	27.4 28.9 29.4 27.2	29.0 26.1
+ + + 19.4 21.8 E	+ 26.4	28.9	30.0 16
+ 19.4	+ 22.6	+ 27.4	+ 29.0
+	6 6 7] + 24.7	25.9
+ 13.48	22.6 22.8 19.8 16.3 13.4	22.3 18.9 14.9 9.83 24.7	17.7
+ · + 18.4 15.8	+16.3	+ 4.	- 8.85 9.85
+ 18.4	+ 19.8	+ 18.9	15.7
+ 50.3	22.8	+ 22.3	19.8 15.7
+ - 20.68	+ 22.6	22.5	20.3
۲.	വ വ	ന വ	1.5

1.5 5.5 9.5 13.5 17.5 7.5 11.5 15.5 19.5 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 13:56 15-Mar-95 PROJECT: 63-410 AREA: OFFCE 1/KTCHN-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.3FT, HORZ GRID (V), HOŘZ CALC, Z= 2.5 Computed in accordance with IES recommendations 2.22 MAX/MIN= AUE/MIN= AUE=38.3 MAX=51.1 + MIN=17.3

W2 <6> = \$068 COLUMBIA AW240-A, <2> F032/35K, LLF= 0.66 W8 <1> = K8558 COLUMBIA W140-A, <1> F032/35K, LLF= 0.60

Y-AXIS

7.5	38.3423 <u>5.7</u> 34	34.2	29.2	+ 24.94230		34.1	38.7	43,6124	+ + + + + + + + + + + + + + + + + + + +
5.5	+ + + 4 41.9 36	.2	+ 60	36.2 29.7 24.6 34.3	+ 8 + 3	39.0	42.9	+ + + + + + 39.0 45.9 48.7 46.4	+ 46.4
3.5	41,3 41.0 34.1		+ 52	17.3 43.2	۳	+ + + + + + + 46.8 49.4 51.1	+ 04		47.7
	37,5 36.8 28.7	.7 1	+ 2	4 HZ 32.5	44.8	+ + - - - - -	50 +	4 0 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	45.5

1.5 5.5 9.5 13.5 17.5 3.5 7.5 x-4XIS

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2.5 15:29 27-Jan-95 =2 Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (V), HORZ CALC, USI's LITE*PRO V2.27E Point-By-Point Numeric Output PROJECT: 63-410 AREA: BREAK ROOM GRID: Ceiling Computed in accordance with IES recommendations

+ MIN=16.4 MAX=21.8 AUE=20.0 AUE/MIN= 1.22 MAX/MIN= 1

R <12> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 3.0 7.0 11.0 15.0 19.0 23.0 27.0 X-AXIS

2.5 14:00 15-Mar-95 Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (V), HORZ CALC, USI's LITE*PRO U2.27E Point-By-Point Numeric Output PRJJECT: 63-410 AREA: BZEAK ROOM-N GRID: Calling Computed in accordance with IES recommendations

+ MIN=14.4 MAX=33.2 AUE=25.6 AUE\MIN= 1.78 MAX\MIN=

2.31

W2 (8) = 9068 COLUMBIA AJ240-A, (2) F032/35K, LLF= 0.66

Y-AXIS

20.0 22.3 22.6 22.1 23.0 23.4 23.1 22.3 23.1 23.4 23.0 22.1 22.6 22.3 20.0 14.4 15.4 15.7 15.7 16.0 16.2 16.1 15.8 16.1 16.2 16.0 15.7 15.7 15.7 15.4 14.4 26.6 30.4 31.0 30.3 31.6 32.3 31.7 30.6 31.7 32.3 31.6 30.3 31.0 30.4 26.6 26.6 30.4 31.0 30.3 31.6 32.3 31.7 30.6 31.7 37.3 31.6 30.3 31.0 30.4 26.6 14.4 15.4 15.7 15.7 16.0 16.2 16.1 15.8 16.1 16.2 16.0 15.7 15.7 15.7 15.4 14.4 27.1 3 4 3 5 30.3 32.0 3 2 2 32.1 30.6 32.1 3 2 2 0 30.3 31.5 3 4 2 27.1 27.1 314 31.5 30.3 32.0 382 32.1 30.6 32.1 382 32.0 30.3 31.5 31.4 27.1 5.5 3.5 11.5 1.5 19.5 17.5 15.5 13.5 9. 5

1.0 5.0 9.0 13.0 17.0 2:.0 25.0 29.0 3.0 2.0 2.0 25.0 29.0 x-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:38 27-Jan-95 PROJECT: 63-410 AREA: OFFICES 3 8 4 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.69 1,38 MAX/MIN= AUE/MIN= AUE=7.73 MAX=9.46 + MIN=5.59

R1 <6> = K8956 COLUMBIA AD140-A, <1> F40CW/WM, LLF= 0.68

Y-AXIS

1.5 5.5 9.5 13.5 17.5 3.5 7.5 11.5 15.5 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:31 15-Mar-95 PROJECT: 63-410 AREA: OFFICES 3 & 4-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.85 1.46 MAX/MIN= AUE/MIN= AUE=33.1 MAX=42.1 + MIN=22.8

u2 (6) = 9068 COLUMBIA AW240-A, (2) F032/35K, LLF= 0.66

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2.50

1.5 5.5 9.5 13.5 17.5 3.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 16:03 27-Jan-95 PROJECT: 63-410 AREA: MENS TOILET GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=9.79 MAX=26.0 AUE=18.1 AUE/MIN= 1.85 MAX/MIN= 2.66

R $\langle 2 \rangle$ = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 T4 $\langle 1 \rangle$ = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62 T6 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F30T12/WW/RS, LLF= 0.60

Y-AXIS

11.0	1		16.8		+ 16.9
9.0	+ 13.0	19.1	22.8 R	+ 24.2	+ 17.5
7.0	1		26.0		
5.0	+ 15.6	+ 22.7	25.6 R	+ 24.0	+ 18. [6
3.0	+ 13.5	+ 19.5	21.5	+ 20.9	+ 16. l
1.0	+ 10.5	+ 14.3	+ 15.5	+ 15.3	+ 12.2
	1.0	3 . 0	5.0	7 . 0	9.0
			ZIXA-X		

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 14:04 15-Mar-95 PROJECT: 63-410 AREA: MENS TOILET-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

AUE/MIN= 1.61 MAX/MIN= 2.14 AUE=16.7 + MIN=10.4 MAX=22.2

 $18 \langle 2 \rangle = K8959$ COLUMBIA CH140, (1) F032/35K, LLF= 0.72

T4 $\langle 1 \rangle$ = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

W8 (1) = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.60

Y-AXIS

11.0	+ 10.4	+ 12.5	+ 15.2	+ 17.6	+
9.0	13.1	16.6	19.9	21.4	17.2
7.0	+ 15.1	+ 19.0	22.2	+ 19.9	+ 17. 3 7
5.0	+ 15.2	19.0	21.8	+ 20.8	+ 18. 6 8
3.0	+ 13.5	+ 16.8	18.6	+ 18.6	+ 16.9
1.0	+ 11.1	+ 12.9	+ 14.0	+ 14.3	+ 13.3
	1.0	3.0.	5.0	7.0	9.0
		Y	X-AXIC	\ \	

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:28 27-Jan-95 PROJECT: 63-410 AREA: HALL/JAN/RR ENT GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=16.5 AUE=9.68 AUE\MIN=N\A MAX\MIN=N\A

R <3> = K8948A COLUMBIA R0140-A, <1) F40CW, LLF= 0.68 T4 <2> = B1630B PRESCOLITE CFS8-472-SL8, <2) F9TT/27K, LLF= 0.62

Y-AXIS

0.0	+ 6.42	+ + + + + + + + + + + + + + + + + + +	11.8	13.0	13.9	+ 4 + 6	+ 15.0	+ + 14.8	14.3	+ + 13.4	+ 11.4	8,66
2.0	4 6. 49	+ + + + + + + + + + + + + + + + + + +	+ 1289	+	+ 14.8	+ 15	+ + 2	+ 9	15.6	+ 14pZ	+ 67	8.88
5.0	6. 25	+ + + + + + + + + + + + + + + + + + +	12.5	13.8	+ + + 6	15.6	+16.2	15.9	+ 15.4	+ 14.2	+ 11.5	8,35
3.0	5.30	5.30 7.90 9.89 10.9 0.00 0.00 0.00 0.00 13.7 8.99 6.77	9.89	10.9	0.00	0.00	0.00	0.00	0.00	13.7	+ 8 8 8	4.92
1.0	3.92	3.92 5.41 6.20 5.13 6.11	+ 6.20	+ 5.13	+ 6.11	6.28	+ 5.67	5.80	(4) 5.94	0.00	4.73	4.31

21.0 17.0 15.0 X-AXIS 9.0 5.0

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USI's LITE*PRO U2.27E Poirt-By-Point Numeric Outpu: 14:06 15-Mar-95 PROJECT: 63-410 AREA: HALL/JAN/RR-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=0.00 MAX=14.9 AUE=9.11 AUE.MIN=N.A MAX.MIN=N.A

R8 <3> = L10654 COLUMBIA R0140-A-SPREF, (1) F032/35K, LLF= 0.67 T4 <2> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS

0.0	4 6. 20	6.20 9.23 11.6 12.7 13.5 14.2 :4.6 14.5 14.0	+11.6	12.7	13.5	14.2	+ 4.	+ 14.5	14.0	+ + + + + + + 13.1 11.1 8.33	11.1	8.33
7.0	+ 5.94	+ + + + + + + + + + + + + + + + + + +	+ 108	+ + 2	+ 13.4	+ 1	+ D'84, 5	+ 4. 4.	13.9	1.28	+	8.08
5.0	5. 85. 85.	+ + + + + + + + + + + + + + + + + + +	11.3	12.7	13.7	+ 4.	+ , , o	+ + 1	14.3	13.0	10.5	7.78
3.0	5.20 7.84 9.86 10.8 0.00 0.00 0.00 0.00 12.8 8.91 6.62	+ 7.84	98.86	10.8	0.00	0.00	0.00	0.00	0.00	13.8	8.91	4.62
1.0	3,89	+ 5.40	+ 6.23	5.18 8.18	+ 6.10	6.28	5.67	5.80	(4) 5.94	0.00	4.78	+ 4.29

21.0 19.0 15.0 13.0 X-AXIS 11.0 9.0 7.0 5.0 3.0 1.0

人工人工的 人名英伊 化双邻乙烯 电视频频波 混冶电子流温度温度

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:32 27-Jan-95 PROJECT: 63-410 AREA: WOMENS TOILET GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.65 MAX/MIN= AUE/MIN= AUE=9.78 MAX = 13.3+ MIN=5.92

R1 <2> = K8956 COLUMBIA AD140-A, <1> F40CW/WM, LLF= 0.68 T6 <1> = K8958 COLUMBIA W140-A, <1> F30†12/WW/RS, LLF= 0.60

Y-AXIS

7.5	5.92	+ 8.23	8 - 1 0 -	10.0	* 8.92 E
5.5	7.13	+10.4	<u>+</u>	13.0	11.9
3.5	7.27	10.6	8	13.3	12.
ស្	6.27	8.82	0 + + 0 4	10.7	+ 9.35

1.0 5.0 9.0 3.0 7.0 x-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:38 15-Mar-95 PROJECT: 63-410 AREA: WOMENS TOILET-N GRID: Ceiling Ualues are FC, SCALE: 1N= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Conputed in accordance with IES recommendations

+ MIN=13.4 PAX=21.9 AUE=18.1 AUE.MIN= 1.35 MAX.MIN=

1.63

I8 <2> = K8959 COLUMBIA CH140, <1> F032/35K, LLF= 0.72 W8 <1> = K8958 COLUMBIA W140-A, <1> F032/35K, LLF= 0.60

Y-AXIS

+ 17.2	21.2	21.5	17.8
+ 18.1	+21.6	+ 21.9	+ 18.8
9	9	2002	4
15.9	18.3	18.5	16.5
+ 3. +	+ 15.3	+ 15.4	13.9
7.5	10 10	3.01	10
	117	,	

1.0 5.0 9.0 3.0 7.0 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:36 27-Jan-95 PROJECT: 63-410 AREA: ENTRANCE 2 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=2.96 MAX=5.80 AUE=4.26 AUE.MIN= 1.44 MAX.MIN=

R1 <1> = K8956 COLUMBIA AD140-A, (1) F40CW/WM, LLF= 0.68

1.96

Y-AXIS

1.0 5.0 7.0 3.0 X-AXIS

LOG SERVICES SERVICES

USI's LITE*PRO U2.27E Poirt-By-Point Numeric Outpu: 14:10 15-Mar-95 PROJECT: 63-410 AREA: ENTRANCE 2-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.30 :.16 MAX/MIN= AUE/MIN= AUE=9.17 MAX = 10.2+ MIN=7.89

R8 <1> = L10654 COLUMBIA R0140-A-SPREF, (1) F032/35K, LL^z= 0.67

Y-AXIS

1.0 5.0 7.0 3.0 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:40 27-Jan-95 PROJECT: 63-410 AREA: WOMENS ALCOVE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 1.17 1.07 MAX/MIN= AUE /MIN= AUE=8.60 MAX=9.37 + MIN=8.04

14 (1) = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TI/27K, LLF= 0.62

Y-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 16:41 27-Jan-95 PROJECT: 63-410 AREA: MENS ALCOVE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.10 1.04 MAX/MIN= AUE/MIN= AUE=6.88 MAX=7.27 + MIN=6.60

T4 (1) = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS

2.5 16:50 27-Jan-95 PROJECT: 63-410 AREA: MENS CHANGE GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, USI's LITE*PRO U2.27E Point-By-Point Numeric Output Computed in accordance with IES recommendations

+ MIN=10.4 MAX=23.3 AUE=19.1 AUE/MIN= 1.84 MAX/MIN= 2.

R <10> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 T6 <3> = K8958 COLUMBIA W140-A, (1) F30T12/WW/RS, LLF= 0.60

Y-AXIS

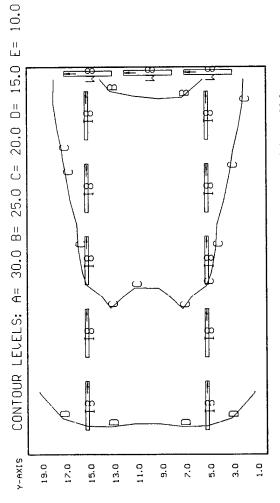
12.5 16.4 18.7 18.9 20.8 20.8 20.4 20.5 20.7 20.9 21.2 21.6 22.0 22.5 22.4 20.5 20.7 20.9 21.2 21.6 22.0 22.5 22.4 20.5 20.4 20.5 20.7 20.9 21.2 21.6 22.0 22.5 22.4 20.5 20.4 2 12.4 15.4 17.5 18.8 19.5 19.9 20.2 20.4 20.5 20.7 21.0 21.2 21.6 22.0 22.6 22.4 12.9 16.4 18.7 19.9 20.8 21.2 21.3 21.6 21.8 21.8 22.2 22.5 22.6 23.1 23.3 22.¶ 10.4 12.5 14.0 14.9 15.4 15.8 16.1 16.2 16.3 16.5 16.6 16.7 16.8 16.6 16.2 15.3 10,4 12,5 14,0 14,9 15,4 15,8 16,1 16,2 16,3 16,4 16,5 16,6 16,6 16,4 15,9 14,8 12.2 15.3 17.4 18.5 19.3 19.7 19.8 20.1 20.2 20.2 20.5 20.6 20.6 20.6 20.2 19¶ 12.9 16.4 18.7 19.9 20.8 21.2 21.3 21.6 21.8 21.8 22.2 22.4 22.6 23.0 23.2 22.5 12.7 16.3 18.5 19.6 20.5 20.9 20.8 21.3 21.4 21.3 21.8 22.1 22.0 22.5 22.7 21||4 12.7 16.3 18.5 19.6 20.3 20.9 20.8 21.3 21.4 21.3 21.8 22.0 21.9 22.4 22.5 214 1.0 11.0 5.0 3.0 17.0 15.0 13.0 9.0 2.0 19.0

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 3.0 3.0 11.0 15.0 19.0 23.0 27.0 31.0 x-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:12 15-Mar-95 PROJECT: 63-410 AREA: MENS CHANGE-N 3RID: Ceiling Ualues are FC, SCALE: 1N= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

2.17 1.59 MAX/MIN= AUE/MIN= AUE = 19.2MAX=26.2 + MIN=12.0

I8 <10> = K8959 COLUMBIA CH140, <1) F032/35K, LLF= 0.72 W8 <3> = K8958 COLUMBIA W140-A, <1) F032/35K, LLF= 0.60



1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 31.3 3.0 7.0 11.0 15.0 31.3 x-AXIS

2.5 09:32 30-Jan-95 =2 PROJECT: 63-410 AREA: MENS ŚHOWER GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Computed in accordance with IES recommendations USI's LITE*PRG U2.27E Point-By-Point Numeric Output

3.34 2.44 MAX/MIN= AUE/MIN= AUE = 12.4MAX = 16.9+ MIN=5.07

J1 <9> = K9798X COLUMBIA LUN140-WL, (1) F40CW, LLF= 0.68 T4 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

6.54 8.68 8.97 11.0 12.8 14.0 14.7 15.1 15.2 15.1 15.1 15.2 13.4 11.2 9.45 6.93 6.77 8.49 10.7 13.2 14.9 15.6 16.3 16.5 16.4 16.6 16.3 15.1 14.4 12.7 10.3 700 6.66 6.35 8.81 11.5 13.5 14.7 15.5 15.8 15.7 15.7 15.7 15.4 14.8 14.0 12.6 10.2 5.57.5,26,5.07.6,62.8,44.11,12,6.13.2,13.4,13,4,13,3,12,9,12.5,11.8,10,8.9,27 9.30 11.7 13.2 14.2 15.2 15.8 16.0 16.4 16.4 15.9 15.4 13.8 9.37 11.2 10.9 9.20 8.12 9.85 11.2 12.2 13.5 14.4 14.8 15.2 15.2 14.9 14.3 14.3 11.9 11.0 10.4 8.97 8.66 10.2 11.2 11.8 12.4 12.9 13.1 13.2 13.1 12.5 10.9 8.38 5.11 6.10 6.35 5.92 9.59 11.9 13.3 14.0 14.8 15.2 15.3 15.6 15.4 14.8 13.7 11.4 6.92 8.85 9.09 7.93 3.0 9.0 1.0 19.0 11.0 Y-AXIS 17.0 15.0 13.0

1.0 5.0 9.0 13.0 17.0 21.0 25.0 29.0 31.0 $\times 0.0 \times 0.$

2.5 14:15 15-Mar-95 Ualues are FC, SCALE: 1 IN= 8.0FT, HORZ GRIJ (U), HORZ CALC, USI's LITE*PRO U2.27E Point-By-Point Numeric Output PRCJECT: 63-410 AREA: MENS SHOWER-N GRID: Ceiling Computed in accordance with IES recommendations 2.44 MAX/MIN= AUE/MIN= AUE=11.3 MAX=15.5 + MIN=4.63

J8 <9> = K9798 COLUMBIA LUN140-DMR, (1) F032/35K, LLF= 0.67 T4 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, L_F= 0.62

8.50 10,7 12.1 12.9 13.8 14.4 14.6 14.9 14.5 14.5 14.1 12.6 8.55 10.2 9.97 8.39 7,46 9.04 10.2 11.1 12.3 13.1 13.5 13.8 13.9 13.6 13.1 13.C 10.8 10.1 9.50 8.18 6.13 8.07 8.19 10.0 11.7 12.8 13.4 13.8 13.9 13.8 13.8 13.7 12.4 11.3 10.2 8.62 6.66 6.50 7.74 9.78 12.1 13.6 14.2 14.8 15.0 15.0 15.2 14.8 13.8 13.2 11.6 9.36 7,28 6.88 6.87 9.29 11.3 43.6 14.4 15.2 45.4 15.4 15.5 4 5.2 14.5 13.7 4 2.1 9.69 6.89 6.58 5.79 8.03 10.5 12.3 13.4 14.1 14.4 14.3 14.1⁷ 13.5 12.8 11.5 9.27 | 5.49 5.20 | 4.63 6.04 7.70 10.1 11.5 12.0 12.2 12.2 12.1 11.E 11.4 10.8 9.86 8.45 8.76 10.9 12.2 12.8 13.5 13.9 14.0 14.2 14.1 13.5 12.5 10.4 6.31 8.07 8.29 7.23 9.05 1:3 42.3 13.6 14.4 44.9 15.0 15.3 45.2 14.6 14.0 41.6 7.65 9.67 9.85 8.22 7-90-9.31 10.2 10.8 11.3 11.7 11.9 12.0 11.9 11.4 9.95 7.64 4.66 5.57 5.79 5.40 1.0 13.0 17.0 7.0 5.0 3.0 Y-AXIS

1.0 5.C 9.0 13.0 17.0 21.0 25.0 29.0 31.0 x-6 XIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 17:46 27-Jan-95 PROJECT: 63-410 AREA: ALCOVE 10 GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=7.32 MAX=10.6 AUE=9.13 AUE/MIN= 1.25 MAX/MIN= 1.44

T4 (2) = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 17:52 27-Jan-95 PROJECT: 63-410 AREA: OPEN AREA 2 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 2.16 1.53 MAX/MIN= AUE/MIN= AUE = 17.2MAX=24.3 + MIN=11.2

R <2> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 3.0 7.0 X-AXIS

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USI's LITE*FRO U2.27E Point-By-Point Numeric Output 14:44 15-Mar-95 PROJECT: 63-4104 AREA: OPEN AREA 2-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HCRZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.73 1.32 MAX/MIN= AUE/MIN= AUE=15.4 MAX=20.2 + MIN=11.7

I8 <2> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

1.8 14.0 + + + + + + + + + 5.1 13.9 5.1 13.9 + + + + + + + + + + + + + + + + + + +

1.0 5.0 9.0 3.0 7.0 X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 17:56 27-Jan-95 PROJECT: 63-410 AREA: RESTROOM 5 GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.71 1.37 MAX/MIN= AUE/MIN= AUE=19.5 MAX = 24.2+ MIN=14.2

R <2> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 R1 <1> = K8956 COLUMBIA AD140-A, (1) F40CW/WM, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 13.0 3.0 7.0 11.0 15.0 X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:36 15-Mar-95 PROJECT: 63-410A AREA: RESTROOM 5-N 3RID: Ceiling 2.5 Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= Conputed in accordance with IES recommendations

1.42 1.25 MAX/MIN= AUE/MIN= AUE=17.2 PAX = 19.4+ MIN=13.7

I8 <2> = K8959 COLUMBIA CH140, <1> F032/35K, LLF= 0.72 W8 <1> = K8958 COLUMBIA W140-A, <1> F032/35K, LLF= 0.58

Y-AXIS

- Control of the second

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 09:27 30-Jan-95 PROJECT: 63-410 AREA: WOMENS LOCKERS GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

· control of the state of the s

+ MIN=10.1 MAX=26.5 AUE=17.6 AUE/MIN= 1.74 MAX/MIN= 2.62

R $\langle 6 \rangle$ = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 R2 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F40CW, LLF= 0.60

Y-AXIS

19.0	+ 10.1	+ 12.2	+ 13.6	+ 14.7	+ 15.1	15.1	+ 14.7	+ 13.8	12.3	10.2
17.0	+ 12.0	+ 15.1	+ 17.2	18.3	+ 19.0	+ 19.0	+ 18.4	+ 17.4	+ 15.3	12.2
15.0	+ [12.5	+ p	18.4	+ [19.4	+ p 20.3	1 > 2 20.3	+ [19.6	+ p	+> 16.6	12.9
13.0	+ 12.8	+ 16.3	+ 18.6	+ 19.8	+ 20.6	+ 20.7	+ 20.2	+ 19.3	+ 17.2	+ 13.7
11.0	+ 12.3	+ 15.3	+ 17.5	18.8	+ 19.5	+ 19.7	+ 19.5	+ 18.8	+ 17.1	+ 14.2
9.0	+ 12.3	15.3	+ 17.6	+ 18.9	+ 19.6	20.0	+ 20.1	+ 19.8	+ 18.8	+ 16.2
7.0	+ 12.9	+ 16.4	+ 18.8	20.1	21.1	+ 21.6	21.9	+ 22.3	22.5	21.
5.0	+ 12.7	16.4	18.7	+ 19.8	21.0	21.7	22 . 0	23.1	24.6	+n2 26.5
3.0	+ 12.2	15.3	+ 17.5	+ 18.8	19.9	+ 20.5	21.1	22.1	23.5	+U 25.2
1.0	+ 10.3	+ 1 <u>2.4</u>	+ 14.0	+ 15.2	+ 16.0	+ 16.5	+ 17.2	+ 18.0	+ 18.9	+ 20.1
	1.0	3.0	5.0	7.0	9.0 X-A	11.0	13.0	15.0	17.0	19.0

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 14:59 15-Mar-95 PROJECT: 63-410A AREA: WOMENS LOCKRS-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=11.2 MAX=25.0 AUE=16.8 AUE/MIN= 1.50 MAX/MIN= 2.23

I8 $\langle 6 \rangle$ = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 W8 $\langle 1 \rangle$ = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.58

Y-AXIS

19.0	+ 11.2	+ 12.9	+ 14.1	+ 15.0	+ 15.5	+ 15.5	+ 15.1	+ 14.2	+ 13.0	+ 11.3
17.0	12.0	14.4	15.9	16.7	17.3	17.3	16.8	16.1	14.6	12.2
15.0	12.6	# 16 15.3	17.0	+ 17.8	18.4	18.5	18.0	+ 18 17.4	15.7	+ 12 . 9
13.0	+ 12.9	+ 15.4	+ 17.2	+ 18.1	+ 18.7	+ 18.8	+ 18.5	+ 17.8	16.2	+ 13.7
11.0	+ 12.9	+ 15.2	+ 16.9	+ 17.9	+ 18.5	+ 18.8	+ 18.6	+ 18.0	+ 16.8	+ 14.6
9.0	+ 12.9	+ 15.2	+ 16.9	+ 18.0	+ 18.7	+ 19.0	19.1	19.0	+ 18.3	+ 16.4
7.0	13.0	+ 15.6	+ 17.3	+ 18.3	19.2	+ 19.6	19.9	20.5	+ 21.0	20.
5.0	12.7	15.5	8 1 - 17.3	18.2	19.1	8 = 19.7	20.2	21.2	8 + - 22.9	+w8 25.0
3.0	12.2	+ 14.6	+ 16.2	+ 17.2	+ 18.1	+ 18.7	+ 19.2	+ 20.3	+ 21.9	+U 23.8
1.0	11.4	+ 13.1	+ 14.4	+ 15.5	+ 16.3	+ 16.8	+ 17.3	+ 18.0	+ 18.9	+ 20.1
	1.0	3.0	5.0	7.0	9.0 X-6	11.0	13.0	15.0	17.0	19.0

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USI's LITE*PRO V2.27E Point-By-Point Numeric Output 09:40 30-Jan-95 PROJECT: 63-410 AREA: WOMENS SHOWERS GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=6.21 MAX=18.4 AUE=13.2 AUE/MIN= 2.13 MAX/MIN= 2.96

J1 $\langle 6 \rangle$ = K9798X COLUMBIA LUN140-WL, (1) F40CW, LLF= 0.68

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Y-AXIS										
19.0	+ 9.03	+ 10.6	+ 1 1 4	10.7	+ 9.46	+ 9 . 26	+ 10.1	10.3	+ 9.38	+ 7.71
17.0	+ 10.7	+ 13.6	15.2	+ 14.1	+ 11.6	+ 11.1	+ 12.6	13,4	+ 11.7	+ 8.74
15.0	+ 11.9	+ 15.2	16.9	15.7	13.1	12.1	+ 12.9	13.4	+ 11.4	+ 8.47
13.0	12.6	+ 15.8	+ 1 7 4	+ 16.5	+ 14.5	13.0	10.8	101	+ 8.57	+ 6.21
11.0	13.1	+ 16.5	1814	+ 17.3	15.1	15.0	+ 15.1	15.8	13.4	+ 10.4
9.0		+ 16.6								
7.0	12.7	15.9	17,5	+ 16.7	·+ 14.7	+ 14.3	+ 16.3	17,0	+ 15.2	+ 11.9
5.0	12.0	+ 15.5	173	+ 16.3	13.9	13.7	16.0	1710	15.2	11.7
3.0	11.0	13.9	15.6	+ 14.5	+ 12.5	12.4	+ 14.4	15.4	+ 13.8	10.8
1.0	+ 9.27	+ 10.9	11.7	11.3	10.2	10.2	11.3	+ 11.6	+ 10.8	9.19
	1.0	3.0	5.0	7.0		11.0 AXIS	13.0		17.0	

and the street of the complete

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:02 15-Mar-95 PROJECT: 63-410A AREA: WOMENS SHWERS-N GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=5.54 MAX=16.4 AUE=11.8 AUE/MIN= 2.13 MAX/MIN= 2.96

J8 $\langle 6 \rangle$ = K9798 COLUMBIA LUN140-DMR, (1) F032/35K, LLF= 0.66

Y-	-A	XΙ	S
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19.0	+ 8.05	+ 9.44	+ 1 () 1	+ 9.56	+ 8.44	+ 8.26	+ 8.98	919	+ · 8.37	+ 6.88
17.0	9.57	12.1	13,5	12.5	10.3	ı 9.88	11.3	11,9	10.4	1 7.80
15.0	10.6	+ 13.5	15.0	+ 14.0	11.7	+ 10.8	+ 11.5	12.0	10.1	+ 7 . 56
13.0	+ 11.2	+ 14.1	15,5	+ 14.7	+ 12.9	+ 11.6	+ 9. <u>60</u>	9.04	+ 7 <u>.65</u>	+ 5.54
11.0	+ 11.7	+ 14.8	16.4	+ 15.5	+ 13.5	+ 13.4	13.4	1 4 1	12.0	9.28
9.0	+ 11.7	14.8	16.4	+ 15.5	+ 13.5	13.1	+ 14.6	15.5	13.6	+ 10.3
7.0	+ 11.3	+ 14.2	156	+ 14.9	+ 13.2	† 12.8	+ 14.5	15,2	+ 13.6	10.6
5.0	+ 10.7	+ 13.8	15.4	+ 14.5	+ 12.4	+ 12.3	14.3	15 ₈ 2	+ 13.5	+ 10.4
3.0	9.80	+ 12.4	13.9	+ 12.9	+ 11.1	+ 11.1	+ 12.9	13.7	+ 12.3	+ 9.64
1.0	8.27	9.71	+ 10.4	10.1	+ 9.13	9.14	+ 10.0	+ 10.4	+ 9 . 63	+ 8.19
	1.0	3.0	5.0	7.0		11.0	13.0	15.0	17.0	19.0

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 09:51 30-Jan-95 PROJECT: 63-410 AREA: WOMENS TOILET GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 6.29 MAX/MIN= 11.03 AUE/MIN= AUE=18.8 MAX=33.0 + MIN=2.99

R <3> = K8948A COLUMBIA RO140-A, (1) F40CW, LLF= 0.68 R2 <1> = K8958 COLUMBIA W140-A, (1) F40CW, LLF= 0.60

Y-AXIS

9.0	3.31	4,65	14.5	6.65 14.5 22.38 22.3 14.5 6.64 3.30	22.3	14.5	+ 6.64	3.30
7.0	2.99	+ + + + + + + + + + + + + + + + + + +	16.2	. + 24.7	+ 24.7	+16.2	+ + + + 16.2 6.88 2.99	2.99
5.0	15,2	+ + + + + + + + + + + + + + + + + + +	+ 26.0	+ 26.9	+ 27.0	+ 26.0	19.5	15.1
3.0	16.3	+ + B + + + + + + + + + 16.3 22.2 26.9 28.4 28.5	26.9	+ 28.4	28.5	27.0	27.0 22.1 16.1	16.1
1.0	15.8	+ + + + 15.8 21.3 27.0 [27.0	+ 0 [32,9]	+	+ 27.1	+ + + + + +	15.7

1.0 5.0 9.0 13.0 3.0 7.0 11.0 15.0 X-AXIS

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 15:35 15-Mar-95 PROJECT: 63-410A AREA: WOMENS TOILET-N GRID: Ceiling Ualues are FC, SCALE: 1N= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

5.85 MAX/MIN= 10.53 AUE_MIN= AUE = 16.9MAX=30.5 + MIN=2.90

I8 <3> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72 W8 <1> = K8958 COLUMBIA W140-A, (1) F032/35K, LLF= 0.58

Y-AXIS

9.0	3.37	÷ 6.03	, 3, 1	20.3	70.3	+ 13.0	+ + + 13.0 6.01	3,36
7.3	7,90	5.88	.3.8	+21.1	+21.1	13.8	+ + + + + 13 <u>.8 6.18 2.90</u>	2.90
0.0	13.5	+ ~:	+ 22.4 2	+ + + 23.0 23.0 22.5	23.0	+ 22.5	+ 17.1	13.4
3.0	14.9	20.1	- 11	24.6 25.9	+ 25.9	24.6	18 + = + 20.1 1 ² .8	12.8
1.0	15.1	+ 20.0	+ 25.1	+ 00	+ 05	+ 25.2 2	20.0 15.0	15.0

1.0 5.0 9.0 13.0 3.0 7.0 11.0 15.0 X-AXIS

- 2011 Modern March

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 09:55 30-Jan-95 PROJECT: 63-410 AREA: TOILET ALCOUE GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=8.63 MAX=16.0 AUE=11.8 AUE.MIN= 1.36 MAX.MIN=

R <1> = K8948A COLUMBIA R0140-A, <1> F40CW, LLF= 0.68

Y-AXIS

1.0 5.0 9.0 3.0 7.0 X-AXIS USI's LITE*FRO U2.27E Point-By-Point Numeric Output 15:37 15-Mar-95 PROJECT: 63-4109 AREA: TOILET ALSOJE-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HCRZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=7,74 MAX=13.8 AUE=10.2 AUE.MIN= 1.32 MAX.MIN=

I8 <1> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

 \mathcal{G}_{i}^{n}

USI's LITE*PRO U2.27E Point-By-Point Numeric Output 10:07 30-Jan-95 PROJECT: 63-410 AREA: ENTRANCE ALCOUE GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.18 1.07 MAX/MIN= AUE/MIN= AUE=8.20 MAX=9.09 + MIN=7.67

14 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TI/27K, LLF= 0.62

Y-AXIS

3.0 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Output 10:41 30-Jan-95 PROJECT: 63-410 AREA: ICE MACHINE GRID: Ceiling Values are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=11.8 MAX=23.2 AUE=17.7 AUE/MIN= 1.50 MAX/MIN=

R <2> = K8948A COLUMBIA R0140-A, (1) F40CW, LLF= 0.68 T4 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TT/27K, LLF= 0.62

Y-AXIS

11.8	14,3	15.6	+ 4.	12.5
14.6	18,3	+ 20.2	19.6	16.4
100	10.8 8	7	2 4 4	19.1
+ 4 0	+ 19.4	+ 22.8	+ 23.2	20.2
+ 12.1	15.7	19.0	19	17.7
0.0	7.0	5.0	3.0	1.0

1.0 5.0 9.0 3.0 7.0 X-AXIS USI's LITE*PRO U2.27E Point-By-Point Numeric Outout 15:39 15-Mar-95 PROJECT: 63-410A AREA: ICE MACHINE-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 1.84 AUE,MIN= 1.42 MAX,MIN= AJE=15.9 MAX=20.6 + MIN=11.2

I8 <2> = K8959 COLLMBIA CH140, (1) F032/35K, LLF= 0.72 T4 <1> = B1630B PRESCOLITE CFS8-472-SL8, (2) F9TI/27K, L_F= 0.62

Y-AXIS

9.0	11.7	13.1	136	12.8	1.2
7.0	14.8	+ 16.9	17.3	+ 15.8	,3.2
5.0	17.8	19.9	100	+ 17.3	+ 4.3
3.0	18	+ 20.6	100	+ 16.9	,3,7
1.0	+ 17.2	18.3	17.1	14.4	+ 1.8

1.0 5.0 9.0 3.0 7.0 X-AXIS

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USI's LITE*PRO U2.27E Point-By-Point Numeric Output 10:48 30-Jan-95 PROJECT: 63-410 AREA: CLOTHING ISSUE GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations 1.91 1.41 MAX/MIN= AUE/MIN= AUE=11.5 MAX=15.6 + MIN=8.14

R1 <6> = K8956 COLUMBIA AD140-A, (1) F40CW/WM, LLF= 0.68

Y-AXIS

9.0	+ 8.14	8	, +	.0 10.4	9	+ + 10.4 10.0	10.0	8 0 8	+ 0 8.14
2.0	10.8	0 1 6	+ 6 13.6	+ + 1	13.7	+ 4-	13.6	1116	10.8
O ဖြ	11.8	1 0	15.1	15.6	+ + + 15.6 14.3	3 15.6 15.1 12.8 11.8	15.1	<u>+7</u>	11.8
3.0	10.8	+ P# + 10.8 11.6 13.6	13.6	+ 4.	18.0	14.1	13.6	1 2	+ 10.8
1.0	+ + + + + + + + + + + + + + + + + + + +	8.50	10.0	+ 0.4	. 4	4 + 6 10.4	10.0	8.50	+ + + + + + + + + + + + + + + + + + + +

1.0 5.0 9.0 13.0 17.0 3.0 7.0 11.0 15.0 X-AXIS

Lie to be to the the little bearing and the state of the first of the

US:'s LITE*PRO U2.27E Point-By-Point Numeric Output 15:11 15-Mar-95 PROJECT: 63-410A AREA: CLOT-N3 ISSUE-N GRID: Ceiling Ualues are FC, SCALE: 1 IN= 4.0FT, HORZ GRID (L), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.41 AUE=26.7 AUE/FIN= 1.20 MAX/MIN= MAX=31.3 + MIN=22.2

18 <6> = K8959 COLUMBIA CH140, (1) F032/35K, LLF= 0.72

Y-AXIS

0.0	22.2	286	24.8	25.5	2 8 8	+ 25.5	+ 24.8	23.6	+ 22.2
7.0	25.1	27.2	+ 28.6	+ 29.4	2 0 8	+ 29.4	+ 28.6	27.2	25.1
5.0	+ 26.1	2 8. 6	30.0	30.9	3 3	30.9	30.0	2 8. 6	+ 26.1
3.0	25.1	27.2	+ 28.6	+ 29.4	8 \$6 8	+ 29.4	+ 28.6	27.2	+ 25.1
1.0	+ 22.2	23.6	+ 42	3 25.5	25.8	25.5	24.8	↓ 23.6	22.2

1.0 5.0 9.0 13.0 17.0 3.0 7.0 11.0 15.0 X-AXIS

and the second and the second the contract the contract the

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 10:54 30-Jan-95 PROJECT: 63-410 AREA: MASK STORAGE GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

1.85 1.45 MAX/MIN= AUE=21.8 AUE/MIN= MAX=27.9 + MIN=15.1

R $\langle 12 \rangle$ = K8948A COLUMBIA R0140-A, $\langle 1 \rangle$ F40CW, LLF= 0.68

Y-AXIS 15.1 16.0 16.8 17.5 17.8 17.5 16.6 16.0 15.1 25.0 23.0 17.2 18.4 19.5 20.5 20.9 20.5 19.5 18.4 17.2 19.1 20.5 21.8 23.1 23.6 23.1 21.8 20.5 19.1 21.0 20.6 22.1 23.5 25.0 25.6 25.0 23.5 22.1 20.6 19.0 21.7 23.2 24.7 26.3 26.9 26.3 24.7 23.2 21.7 17.0 22.2 23.9 25.4 27.0 27.6 27.0 25.4 23.9 22.2 15.0 22.4 24.0 25.6 27.2 27.9 27.2 25.4 24.0 22.4 13.0 11.D 21.7 23.224.7 26.3 26.9 26.3 24. 23.2 21.7 9.0 20.6 22.1 23.5 25.0 25.6 25.0 23.5 22.1 20.6 5.0 19.1 20.5 21.8 23.1 23.6 23.1 21.8 20.5 19.1 17.2 18. 19.5 20.5 20.9 20.5 19.5 8.4 17.2 3.0 1.0

9.5 13.5 17.5 7.5 11.5 15.5 X-AXIS

USI's LITE*PRO V2.27E Point-By-Point Numeric Output 15:13 15-Mar-95 PROJECT: 63-410A AREA: MASK STORAGE-N GRID: Ceiling Values are FC, SCALE: 1 IN= 8.0FT, HORZ GRID (U), HORZ CALC, Z= 2.5 Computed in accordance with IES recommendations

+ MIN=15.7 MAX=24.1 AUE=20.6 AUE/MIN= 1.31 MAX/MIN= 1.53

 $18 \langle 12 \rangle = K8959 \text{ COLUMBIA CH140, (1) } F032/35K, LLF = 0.72$

Y-AXIS 15.7 16.3 16.7 17.0 17.1 17.0 16.7 16.3 15.7 25.0 + + I B + + + + + I B + + 17.4 18.3 18.8 19.1 19.1 19.1 18.8 18.3 17.4 23.0 19.0 20.0 20.6 20.9 21.0 20.9 20.6 20.0 19.0 21.0 19.0 17.0 21.3 22.3 22.9 23.2 23.4 23.2 22.9 22.3 21.3 + + I B + + + + + I B + + 21.7 22.8 23.4 23.8 23.9 23.8 23.4 22.8 21.7 15.0 13.0 21.8 22.9 23.6 23.9 24.1 23.9 23.6 22.9 21.8 21.7 22.8 23.4 23.8 23.9 23.8 23.4 22.8 21.7 11.0 21.3 22.3 22.9 23.2 23.4 23.2 22.9 22.3 21.3 9.0 7.0 19.0 20.0 20.6 20.9 21.0 20.9 20.6 20.0 19.0 5.0 17.4 18.3 18.8 19.1 19.1 19.1 18.8 18.3 17.4 3.0 5.5 9.5 13.5 17.5 3.5 7.5 11.5 15.5 X-AXIS

APPENDIX C
DETAIL COST CALCULATIONS

ECO 1
LIGHTING UPGRADE

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

Summary

RS&H No.:

Filename:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator:

EST-SUMP.WQ1

	QUANT	ITY I	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION		Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				154873		139066	\$293,939		
Economy of Scale			-20.0%	-30975		0	(30,975)	MEp360	
Subtotal				123898		139066	262,964		
			-30.1%	-37293	-3.5%	-4867	(42,160)	MEp388	MEp388
City Cost Index					3.3,3	134199	220,804		
Subtotal				86605					NE S
OH & Profit Markups			50.0%	43303	10.0%	13420	56,723	MEpIBC	MEp3
Subtotal				129908		147619	277,527		
Sales Taxes				0	6.5%	9610	9,610		PBA
Subtotal				129908		157229	287,137		
Contingency			10.0%	12991	10.0%	15723	28,714	MEp4	MEp4
Subtotal				142899		172952	315,851		
Design Fee	6.0%			18951		0	18,951	PBA	
SIOH	6.0%			18951		0	18,951	PBA	
Total Const. Cost				180801		172952	\$353,753		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

Summary

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

TEM DESCRIPTION	N/A
Fixture Removal 2x2 UTF or Inc Surf 30 Ea 10.01 300 0.00 0 300 MEp17 2x4 FI Troffer 83 Ea 14.66 1217 0.00 0 1,217 MEp17 4' FI Surf Strip 74 Ea 9.79 724 0.00 0 724 MEp18 4' FI Surf Wrap 191 Ea 13.34 2548 0.00 0 2,548 MEp17 4' FI Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' FI Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' FI Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 235 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp233 Fixture Installation 11" Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp208 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp208 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp208 4', 2 Lamp Indust. 175 Ea 38.61 695 58.24 1048 1,743 MEp208 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	N/A
2x2 UTF or Inc Surf 30 Ea 10.01 300 0.00 0 300 MEp17 2x4 FI Troffer 83 Ea 14.66 1217 0.00 0 1,217 MEp17 4' FI Surf Strip 74 Ea 9.79 724 0.00 0 724 MEp18 4' FI Surf Wrap 191 Ea 13.34 2548 0.00 0 2,548 MEp18 4' FI Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' FI Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' FI Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas	N/A
2x4 Fl Troffer 83 Ea 14.66 1217 0.00 0 1,217 MEp17 4' Fl Surf Strip 74 Ea 9.79 724 0.00 0 724 MEp18 4' Fl Surf Wrap 191 Ea 13.34 2548 0.00 0 2,548 MEp17 4' Fl Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' Fl Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' Fl Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp229 Inst. Ce	N/A
4' Fl Surf Strip 74 Ea 9.79 724 0.00 0 724 MEp18 4' Fl Surf Wrap 191 Ea 13.34 2548 0.00 0 2,548 MEp17 4' Fl Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' Fl Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' Fl Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp229 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp239 High	N/A
4' Fi Surf Wrap 191 Ea 13.34 2548 0.00 0 2,548 MEp17 4' Fi Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' Fi Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' Fi Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp235 Fixture Installation 11* Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp	N/A
4' Fl Pend Indust 52 Ea 12.57 654 0.00 0 654 MEp18 8' Fl Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' Fl Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp229 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp239 Fixture Installation 11" Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp209 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255	N/A
8' Fi Pend Indust 32 Ea 16.31 522 0.00 0 522 MEp18 8' Fl Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11° Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp208 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp208 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179	N/A N/A N/A N/A MBp229 MBp237 NLp12 GRp923 GRp918 GRp917
8' Fl Surf Strip 155 Ea 11.00 1705 0.00 0 1,705 MEp18 Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11" Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp205 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp206 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp206 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074	N/A N/A N/A MBp229 MBp237 NLp12 GRp923 GRp918 GRp917
Low Bay Fixture 151 Ea 22.00 3322 0.00 0 3,322 MEp18 High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11° Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp205 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp205 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp205 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp205 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 <t< td=""><td>N/A MBp229 MBp237 NLp12 GRp923 GRp918 GRp917</td></t<>	N/A MBp229 MBp237 NLp12 GRp923 GRp918 GRp917
High Bay Fixture 8 Ea 29.34 235 0.00 0 235 MEp18 Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11° Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp205 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp205 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp205 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp205 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp205	MBp229 MBp237 MBp237 MBp237 MLp12 GRp923 GRp918 GRp917
Repair Plas Ceiling 450 SF 0.63 284 0.37 167 451 MBp225 Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11° Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp205 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp205 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp205 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp205 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp205	MBp237 NLp12 GRp923 GRp918 GRp917
Inst. Ceiling Tile 664 SF 0.36 239 0.72 478 717 MBp237 Fixture Installation 11° Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp208 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp208 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp208 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp208 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	9 NLp12 8 GRp923 8 GRp918 8 GRp917
Fixture Installation Bar St., 2-26W CFL 9 Ea 27.50 248 79.95 720 720 968 MEp203 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp203 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp203 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp203 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp203	GRp923 GRp918 GRp917
11" Srf, 2-26W CFL 9 Ea 27.50 248 79.95 720 968 MEp205 High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp205 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp205 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp205 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp205	GRp923 GRp918 GRp917
High Bay, 1-100W MH 8 Ea 95.65 765 186.27 1490 2,255 MEp208 4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp208 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp208 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	GRp918 GRp917
4', 1 Lamp Indust. 2 Ea 36.99 74 52.34 105 179 MEp208 4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp208 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	3 GRp917
4', 2 Lamp Indust. 175 Ea 38.61 6757 53.24 9317 16,074 MEp208 4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	
4', 2 Lmp Ind w/Refl 18 Ea 38.61 695 58.24 1048 1,743 MEp208	CP-010
	3 GRp915
4', 2 Lamp Strip 2 Ea 27.50 55 47.99 96 151 MEp200	
2x4, 2 Lamp Surf Mt 1 Ea 35.48 35 76.04 76 111 MEp200	
2x4, 2 Lamp Troffer 4 Ea 41.50 166 58.99 236 402 MEp20	7 NLp15
4', 2 Lamp WA 77 Ea 31.43 2420 56.54 4354 6,774 MEp20	8 NLp15
4', 2 Lamp WA Wet 23 Ea 68.75 1581 84.04 1933 3,514 MEp21	0 MEp210
4', 2 Lamp WA w/Refl 167 Ea 31.43 5249 75.54 12615 17,864 MEp20	8 NLp15
4' 4 Lamp WA 2 Ea 41.50 83 71.58 143 226 MEp20	
8', 2 Lamp Indust. 32 Ea 50.00 1600 84.44 2702 4,302 MEp20	8 GRp917
Fixture Ungrades	
Remove Incand Lamps 50 Ea 1.38 69 0.00 0 69 MEp21	5 N/A
Install Integral CF	
15W w/ Flec Bal 6 Fa 1.38 8 19.95 120 128 MEp21	5 NLp9
20W w/ Elec Bal 28 Ea 1.38 39 19.95 559 598 MEp21	5 NLp9
23W w/ Elec Bai 10 Ea 1.38 14 19.95 200 214 MEp21	
28W w/ Mag Bal 6 Ea 1.38 8 29.95 180 188 MEp21	5 NLp10
Remove Fluor Lamps 8776 Ea 1.83 16060 0.00 0 16,060 MEp13	
Remove Baliasts 4475 Ea 11.00 49225 0.00 0 49,225 MEp21	1 N/A
Remove Lampholders 3369 Ea 2.29 7715 0.00 0 7,715 (1)	N/A
Instail T8 Lamps	
F32T8/TL70/35K 5398 Ea 1.83 9878 2.02 10904 20,782 MEp1	
F96T8/TL70/35K 1040 Ea 1.83 1903 6.40 6656 8,559 MEp13	
FB32T8/TL70/35K 26 Ea 1.83 48 9.34 243 291 MEp13	3 DGSC
Install T8 Ballasts	
2-F32T8 Lamps 2404 Ea 11.00 26444 22.50 54090 80,534 MEp21	
3-F32T8 Lamps 49 Ea 11.00 539 23.50 1152 1,691 MEp21	
4-F32T8 Lamps 137 Ea 11.00 1507 24.50 3357 4,864 MEp21	
2-F96T8 Lamps 520 Ea 11.00 5720 35.00 18200 23,920 MEp21	
Install Reflectors	
4' Strp or Indst 14 Ea 6.88 96 7.95 111 207 (2)	NLp18
4' Wrap or Surf 77 Ea 9.17 706 15.90 1224 1,930 (3)	NLp18
2x4 Troffer 131 Ea 11.46 1501 25.35 3321 4,822 (4)	NLp18

Total Bare Costs 154873 139066 \$293,939	

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 10-020

Building:

RS&H No.: 694-1331-001 Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY I	LAB	OR T	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal									
2x2 UTF or Inc Surf	0	Ea	10.01	. 0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' FI Surf Strip	15	Ea	9.79	147	0.00	0	147	MEp18	N/A
4' Fl Surf Wrap	2	Ea	13.34	27	0.00	0	27	MEp17	N/A
4' Fi Pend Indust	ō	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	ō	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	152	Ea	11.00	1672	0.00	0	1,672	MEp18	N/A
Low Bay Fixture	.02	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	ō	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	169	SF	0.63	106	0.37	63	169	MBp229	MBp229
Inst. Ceiling Tile	0	SF.	0.36	0	0.72	0	0	MBp237	MBp237
		-01	0.00		.				
Fixture Installation	5	Ea	27.50	138	79.95	400	538	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	95.65	100	186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp indust.		Ea	38.61	77	53.24	106	183	MEp208	GRp917
4', 2 Lamp Indust.	2		38.61	,,	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea		26	44.18	44	70	MEp208	GRp915
4', 1 Lamp Strip	1	Ea	25.88	0	47.99	- 77	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50			- 6	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99			MEp208	NLp15
4', 2 Lamp WA	19	Ea	31.43	597	56.54	1074	1,671	MEp208	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	10.050		NLp15
4', 2 Lamp WA w/Refl	122	Ea	31.43	3834	75.54	9216	13,050	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades	<u> </u>							145-015	NI/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF	<u> </u>							145 045	
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	164	Ea	1.83	300	0.00	0	300	MEp13	N/A
Remove Ballasts	84	Ea	11.00	924	0.00	0	924	MEp211	N/A
Remove Lampholders	88	Ea	2.29	202	0.00	0	202	(1)	N/A
Install T8 Lamps			T						
F32T8/TL70/35K	80	Ea	1.83	146	2.02	162	308	MEp13	DGSC
F96T8/TL70/35K	8	Ea	1.83	15	6.40	51	66	MEp13	OS/SYL
FB32T8/TL70/35K	1 0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	†		<u> </u>						
2-F32T8 Lamps	40	Ea	11.00	440	22.50	900	1,340	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	4	Ea	11.00	44	35.00	140	184	MEp211	OS/SYL
	+	1	+	 	1 33.55				1
Install Reflectors	1 0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Strp or Indst	36	Ea	9.17	330		572	902	(3)	NLp18
4' Wrap or Surf			<u> </u>	46	25.35	101	147	(4)	NLp18
2x4 Troffer	4	Ea	11.46	40	20.00	101	17/	1 17	1.700.0
			1	9071	\	12829	\$21,900	 	
Total Bare Costs	1	<u> </u>	1	30/1		12023	Ψ21,300	1	

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location:

Pre-Design Study

Basis: Building:

10-020

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUANT	TTY	LAE	OR	MAT	ERIAL	TOTAL	SOU	
ITEM DESCRIPTION		Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
HEM DESCRIPTION	1 10.	<u> </u>	4 / 5 15						
Total Bare Costs	+			9071		12829	\$21,900		
Total bale Costs	+								
Economy of Scale			-20.0%	-1814		0	(1,814)	MEp360	
Economy of Scale	 								
Subtotal	+			7257		12829	20,086		
Subtotal	- -								
City Cost Index			-30.1%	-2184	-3.5%	-449	(2,633)	MEp388	MEp388
City Cost mack									
Subtotal		-		5073		12380	17,453		
Gabiolai								115 150	145-2
OH & Profit Markups			50.0%	2537	10.0%	1238	3,775	MEpIBC	МЕр3
OTT CO. TOWN									
Subtotal				7610		13618	21,228		
						202	007		РВА
Sales Taxes				0	6.5%	887	887		1 100
						4.4505	22,115		
Subtotal				7610		14505	22,113		
					40.00/	1451	2,212	MEp4	MEp4
Contingency			10.0%	761	10.0%	1451	2,212	WIEDT	10120
						15056	24,327	<u> </u>	
Subtotal				8371		15956	24,021		
				1400	<u> </u>	0	1,460	PBA	
Design Fee	6.0%		<u> </u>	1460		0	1,460	PBA	
SIOH	6.0%			1460			1,400	1	
				11291		15956	\$27,247		
Total Const. Cost		<u> </u>		11291		10000	V 2.,21,	<u> </u>	
					-	+			
		<u> </u>				+			
					+	+			
				-	 	 	_		1
		<u> </u>	-	 	+				

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each.

(1) Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

10-030

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal									
2x2 UTF or Inc Surf	1	Ea	10.01	10	0.00	0	10	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' FI Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Wrap	3	Ea	13.34	40	0.00	0	40	MEp17	N/A
4' FI Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	4	SF	0.63	3	0.37	1	4	MBp229	MBp229
	0	SF	0.36	0	0.72	Ö	Ö	MBp237	MBp237
Inst. Ceiling Tile	- 0	Sr.	0.30		0.72		<u>-</u>	Wiepzer	шорго
Fixture Installation	_		07.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65			0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34		0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0		MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0		
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	2	Ea	27.50	55	47.99	96	151	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0.	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades					1				
Remove Incand Lamps	0	Ea	1.38	0_	0.00	0	0	MEp215	N/A
Instali Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	224	Ea	1.83	410	0.00	0	410	MEp13	N/A
Remove Ballasts	112	Ea	11.00	1232	0.00	0	1,232	MEp211	N/A
Remove Lampholders	94	Ea	2.29	215	0.00	0	215	(1)	N/A
Install T8 Lamps				i					
F32T8/TL70/35K	147	Ea	1.83	269	2.02	297	566	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	8	Ea	1.83	15	9.34	75	90	MEp13	DGSC
Install T8 Ballasts	1	╅╼┈	1	 	T	t			
2-F32T8 Lamps	46	Ea	11.00	506	22.50	1035	1,541	MEp211	OS/SYL
3-F32T8 Lamps	13	Ea	11.00	143	23.50	306	449	MEp211	OS/SYL
	8	Ea	11.00	88	24.50	196	284	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	000	35.00	100	0	MEp211	OS/SYL
2-F96T8 Lamps	 	LEA	11.00	 	1 00.00	 			1 20,0.0
Install Reflectors	-	F-	6 00	_	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88	0			0	(3)	NLp18
4' Wrap or Surf	0		9.17	0					NLp18
2x4 Troffer	21	Ea	11.46	241	25.35	532	773	(4)	INLPIO
	 	4	 	500-	 	0500	фг 7 05		1
Total Bare Costs	<u> </u>		<u> </u>	3227		2538	\$5,765	l	<u> </u>

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

10-030

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
						0500	05.705		
Total Bare Costs				3227		2538	\$5,765	··	
Economy of Scale			-20.0%	-645		0	(645)	MEp360	
Subtotal				2582		2538	5,120		
City Cost Index			-30.1%	-777	-3.5%	-89	(866)	MEp388	MEp388
Subtotal				1805		2449	4,254		
Jubiolai									
OH & Profit Markups			50.0%	903	10.0%	245	1,148	MEpiBC	MEp3
Subtotal				2708		2694	5,402		
Sales Taxes				0	6.5%	175	175		PBA
Subtotal				2708		2869	5,577		
Contingency			10.0%	271	10.0%	287	558	MEp4	MEp4
Subtotal				2979		3156	6,135		
Design Fee	6.0%			368		0	368	PBA	
SIOH	6.0%			368		0	368	РВА	
Total Const. Cost				3715		3156	\$6,871		
		<u> </u>		ļ					
	-				-				
	1								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. **PBA**

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

10-050

RS&H No.: 694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: EST-SUMP.WQ1 Filename:

	QUAN	TITY I	LAB	OB I	MATE	RIAL	TOTAL	SOUF	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	-110.								
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	6	Ea	14.66	88	0.00	0	88	MEp17	N/A
	- 6	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Strip	0	Ea	13.34	- 6	0.00	0	0	MEp17	N/A
4' Fl Surf Wrap	0	Ea	12.57	- 6	0.00	0	0	MEp18	N/A
4' Fl Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust			11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	- 6	0.00	0	ō	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	- 6	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea		0	0.37	0	- 	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63	17	0.72	35	52	MBp237	MBp237
Inst. Ceiling Tile	48	SF	0.36		0.72	- 33	- 02	Web Edit	
Fixture Installation			07.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50		186.27	0	- 6 1	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65 36.99	0	52.34	- 0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0			0	58.24	0	Ö	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0		0	- 0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50		47.99	0	- 0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04		0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	352	MEp207 MEp208	NLp15
4', 2 Lamp WA	4	Ea	31.43	126	56.54	226			MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades								145-015	NI/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF								145 045	<u> </u>
15W w/ Elec Bal	0	Ea	1.38	0_	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	126	Ea	1.83	231	0.00	0	231	MEp13	N/A
Remove Ballasts	63	Ea	11.00	693	0.00	0	693	MEp211	N/A
Remove Lamphoiders	34	Ea	2.29	78	0.00	0	78	(1)	N/A
Instail T8 Lamps									
F32T8/TL70/35K	92	Ea	1.83	168	2.02	186	354	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	1	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0		1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	46	Ea	11.00	506	22.50	1035	1,541	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0		0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0		0	0	MEp211	OS/SYL
2-F96T8 Lamps	0		11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1	T	1						
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	Ö		9.17			0	0	(3)	NLp18
2x4 Troffer	17		11.46		25.35	- 431	626	(4)	NLp18
24 1101161	 	+	1						
Total Bare Costs	+	+	 	2102	1	1913	\$4,015		
TOTAL DATE COSTS			<u> </u>					<u> </u>	

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

10-050

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename: EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2102		1913	\$4,015		
							(100)	145 000	
Economy of Scale			-20.0%	-420		0	(420)	MEp360	
				4000		1913	3,595		
Subtotal				1682		1913	3,393		
City Cost Index			-30.1%	-506	-3.5%	-67	(573)	MEp388	MEp388
				4470			2.000		
Subtotal				1176		· 1846	3,022		
OH & Profit Markups			50.0%	588	10.0%	185	773	MEpIBC	МЕр3
Subtotal	_			1764		2031	3,795		
Sales Taxes				0	6.5%	132	132		PBA
Sales Taxes				<u>_</u>	0.070				
Subtotal				1764		2163	3,927		
Contingency			10.0%	176	10.0%	216	392	MEp4	MEp4
Subtotal				1940		2379	4,319		<u> </u>
Subtotal				1340		20,0	7,010		
Design Fee	6.0%	 		259		0	259	РВА	
SIOH	6.0%			259		0	259	PBA	
Total Const. Cost		-		2458	-	2379	\$4,837		
		<u> </u>			<u> </u>				
								<u></u>	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis:

Building:

13-010

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	TITY	LAE	OB	MATE	FRIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ/ Ο						
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
	- 0	Ea	14.66	0	0.00	0	0	MEp17	N/A
2x4 Fi Troffer	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	0	Ea	13.34	- 6	0.00	0	0	MEp17	N/A
4' FI Surf Wrap	0	Ea	12.57	- 0	0.00	0	ō	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip			22.00	- 6	0.00	- 6	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	- 6	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea		0	0.37	0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63		0.37	- 0	0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72			MODEON	11100201
Fixture Installation					70.05			MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0		GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208 MEp208	GRp917 GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0		
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0_	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	E E	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Instail Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	104	Ea	1.83	190	0.00	0	190	MEp13	N/A
Remove Ballasts	52	Ea	11.00	572	0.00	0	572	MEp211	N/A
Remove Lampholders	48	Ea	2.29	110	0.00	0	110	(1)	N/A
Install T8 Lamps	 								
F32T8/TL70/35K	56	Ea	1.83	102	2.02	113	215	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83		6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83		9.34	0	0	MEp13	DGSC
	 	La	1.00		1 3.5 7	<u> </u>			
Install T8 Ballasts	28	Ea	11.00	308	22.50	630	938	MEp211	OS/SYL
2-F32T8 Lamps	0	Ea	11.00			0	0	MEp211	OS/SYL
3-F32T8 Lamps			11.00			0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea Ea	11.00			0	0	MEp211	OS/SYL
2-F96T8 Lamps	 	ca	11.00	1	1 33.00	 	 	171-0211	1
Install Reflectors	 		0.00	 	7 OF	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88		7.95	0	0		NLp18
4' Wrap or Surf	0	Ea	9.17		15.90			(3)	
2x4 Troffer	2	Ea	11.46	23	25.35	51	74	(4)	NLp18
•				4005		704	60.000		
Total Bare Costs				1305		794	\$2,099	L	

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis: **Building:** Pre-Design Study

13-010

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAF	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				1305		794	\$2,099		
Economy of Scale			-20.0%	-261		0	(261)	MEp360	
Economy of Scale			-20.070						
Subtotal				1044		794	1,838		
City Cost Index	-		-30.1%	-314	-3.5%	-28	(342)	МЕр388	MEp388
							4 400		
Subtotal				730		766	1,496		
OH & Profit Markups			50.0%	365	10.0%	77	442	MEpiBC	МЕр3
						0.40	1.020		
Subtotal				1095		843	1,938		
Sales Taxes				0	6.5%	55	55		PBA
Subtotal	+			1095		898	1,993		
Gubiolai									
Contingency			10.0%	110	10.0%	90	200	MEp4	MEp4
Subtotal				1205		988	2,193		
Design Fee	6.0%			132		0	132	PBA	
SIOH	6.0%			132		0	132	PBA	
Total Const. Cost	-			1469		988	\$2,457		
, otal conot. cost									
	-		-						
		\vdash							

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price. MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA

Information provided by Pine Bluff Arsenal staff.

(1)

Assume lampholder removal takes 5 minutes each.

(2)(3) Assume 15 minutes for installation of reflector. Assume 20 minutes for installation of reflector.

(4)

Assume 25 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 13-020

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITV I	LAB	OB I	ΜΔΤΕ	FRIAL	TOTAL	SOU	RCE
ITEM DECODIBIION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	170.	Onit	\$/OTIL	Total	φ, σ	10.0.			
Fixture Removal	0		10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	9.79	- 6	0.00	0	0	MEp18	N/A
4' FI Surf Strip		Ea	13.34	133	0.00	0	133	MEp17	N/A
4' FI Surf Wrap	10	Ea	12.57	133	0.00	- 6	0	MEp18	N/A
4' Fi Pend Indust	0	Ea		- 6	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31		0.00	- 0	0	MEp18	N/A
8' FI Surf Strip	0	Ea	11.00	0	0.00	- 6	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0		- 6	- 0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00			MBp229	MBp229
Repair Plas Ceiling	10	SF	0.63	6	0.37	4	10		MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	Mehsai
Fixture Installation								145 000	NII = 10
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	1	Ea	35.48	35	76.04	76	111	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	2	Ea	31.43	63	56.54	113	176	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	6	Ea	31.43	189	75.54	453	642	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	2	Ea	1.38	3	0.00	0	3	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	2	Ea	1.38	3	19.95	40	43	MEp215	NLp9
23W w/ Elec Bal	1 0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bai	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	90	Ea	1.83	165	0.00	0	165	MEp13	N/A
Remove Ballasts	45	Ea	11.00	495	0.00	0	495	MEp211	N/A
Remove Lampholders	11	Ea	2.29	25	0.00	0	25	(1)	N/A
Install T8 Lamps	 	 -							
F32T8/TL70/35K	76	Ea	1.83	139	2.02	154	293	MEp13	DGSC
	1 70	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
F96T8/TL70/35K	0	Ea	1.83	1 0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	 	<u> </u>	1.00	"	1 3.54				
Install T8 Ballasts	- 20	+	11.00	330	22.50	675	1,005	MEp211	OS/SYL
2-F32T8 Lamps	30	Ea	11.00	330	23.50	0/3	1,003	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00		24.50	98	142	MEp211	OS/SYL
4-F32T8 Lamps	4	Ea	11.00	44	35.00	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00		33.00	 		MILPETT	1 33/312
Install Reflectors	 	+_		144	7.05	40	00	(2)	NI 519
4' Strp or Indst	6		6.88	41	7.95		89	(2)	NLp18
4' Wrap or Surf	7		9.17		15.90		175	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
					:	4 226	00.555	 	
Total Bare Costs	<u> </u>	<u></u>	<u> </u>	1735		1772	\$3,507	<u></u>	<u> </u>

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

13-020

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator: Filename: W.T.Todd EST-SUMP.WQ1

	QUANT	ITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION		Unit		Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				1735		1772	\$3,507		· · · · · · · · · · · · · · · · · · ·
Economy of Scale			-20.0%	-347		0	(347)	MEp360	
				1388		1772	3,160		
Subtotal				1000		1772			
City Cost Index			-30.1%	-4 18	-3.5%	-62	(480)	MEp388	MEp388
Subtotal				970		1710	2,680		
OH & Profit Markups			50.0%	485	10.0%	171	656	MEpiBC	МЕр3
Subtotal				1455		1881	3,336		
Subtotal	+			1400					
Sales Taxes				0	6.5%	122	122		PBA
Subtotal				1455		2003	3,458		
Contingency			10.0%	146	10.0%	200	346	MEp4	MEp4
Subtotal				1601		2203	3,804		
Design Fee	6.0%			228		0	228	PBA	
SIOH	6.0%			228		0	228	PBA	
Total Const. Cost				2057		2203	\$4,260		
			<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u></u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

13-030

RS&H No.: 694-1331-001 23-Mar-95

Date:

Estimator: W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITV	LAE	ROB	MATE	FRIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ/ Ο / Ι.Ι.	1010	V / D · · · ·				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	0	Ea	9.79	0	0.00	ō	0	MEp18	N/A
	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' Fi Surf Wrap	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	16.31	0	0.00	0	ō	MEp18	N/A
8' FI Pend Indust			11.00	- 0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	00	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea		0	0.00	- 0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0		0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63		0.37	- 6	0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72			MIDDEST	Wibpzor
Fixture Installation			07.70		70.05		0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	<u> </u>	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0		MED200	
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917 GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0 4	MEp215	NLp9
23W w/ Elec Bal	ō	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bai	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	84	Ea	1.83	154	0.00	0	154	MEp13	N/A
Remove Ballasts	42	Ea	11.00	462	0.00	0	462	MEp211	N/A
Remove Lampholders	10	Ea	2.29	23	0.00	0	23	(1)	N/A
Install T8 Lamps	 	 	 -:						
F32T8/TL70/35K	74	Ea	1.83	135	2.02	149	284	MEp13	DGSC
F96T8/TL70/35K	1 7	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	1 0	Ea	1.83	0	9.34	ō	0	MEp13	DGSC
Install T8 Ballasts	 	 	+	<u> </u>	1	<u>-</u>			
	13	Ea	11.00	143	22.50	293	436	MEp211	OS/SYL
2-F32T8 Lamps	1 0	Ea	11.00		23.50	230	0		OS/SYL
3-F32T8 Lamps	12	Ea	11.00			294	426	MEp211	OS/SYL
4-F32T8 Lamps		Ea	11.00	132		0	0	MEp211	OS/SYL
2-F96T8 Lamps	 0	⊏a	11.00	1 -	33.00	 		,	
Install Reflectors	 		6 00	-	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88		15.90	0	00	(3)	NLp18
4' Wrap or Surf	0	Ea		<u> </u>			257		NLp18
2x4 Troffer	7	Ea	11.46	80	25.35	177	25/	(4)	INCh 10
	 		1	4400	 	010	60.040		-
Total Bare Costs	<u> L</u>	<u> </u>	1	1129	<u>l</u>	913	\$2,042	<u> </u>	<u> </u>

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

13-030

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: W.7 Filename: EST

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MATERIAL		TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
				1100		040	\$2,042		
Total Bare Costs				1129		913	\$2,042		
Economy of Scale			-20.0%	-226		0	(226)	МЕр360	
Subtotal				903		913	1,816		
			-30.1%	-272	-3.5%	-32	(304)	MEp388	MEp388
City Cost Index			-00.170		0.070				
Subtotal			·	631		881	1,512		
OH & Profit Markups			50.0%	316	10.0%	88	404	MEpIBC	МЕрЗ
Subtotal				947		969	1,916		
Sublotai		 	 						
Sales Taxes				0	6.5%	63	63		PBA
Subtotal				947		1032	1,979		
Contingency			10.0%	95	10.0%	103	198	MEp4	MEp4
Subtotal				1042		1135	2,177		
Design Fee	6.0%			131		0	131	PBA	
SIOH	6.0%			131		0	131	PBA	
							40.400	<u> </u>	<u> </u>
Total Const. Cost			 	1304		1135	\$2,439		
									
l			<u> </u>	<u></u>	l			L	L

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

13-040

RS&H No.: 694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: EST-SUMP.WQ1 Filename:

	011435	E-E-/ 1	LAD	00 1	MATE	DIA!	TOTAL	SOUR	RCE
	QUAN		LAB	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Unit	\$/Unit	Iolai	φ/O11/t	TOTAL	- 0001		
Fixture Removal			10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	10.01	59	0.00	- 6	59	MEp17	N/A
2x4 FI Troffer	4	Ea	14.66		0.00	0	0	MEp18	N/A
4' Fl Surf Strip	0	Ea	9.79	0		0	0	MEp17	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp18	N/A
4' Fl Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	0	Ea	16.31	0	0.00		0	MEp18	N/A
8' FI Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0		MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	. 0		MBp229
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp2237
Inst. Ceiling Tile	32	SF	0.36	12	0.72	23	35	MBp237	MBD237
Fixture Installation								145.000	NII 10
11° Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65		186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refi	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades					-				
Remove Incand Lamps	1	Ea	1.38	1	0.00	0	1	MEp215	N/A
Install Integral CF	 								
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	1	Ea	1.38	1	19.95	20	21	MEp215	NLp9
23W w/ Elec Bal	Ö	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	52	Ea	1.83	95	0.00	ō	95	MEp13	N/A
Remove Ballasts	26	Ea	11.00	286	0.00	0	286	MEp211	N/A
	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Remove Lampholders	 	<u>-a</u>	E.E.S	— 					
Install T8 Lamps	50	Ea	1.83	95	2.02	105	200	MEp13	DGSC
F32T8/TL70/35K	52		1.83	95	6.40	103	200	MEp13	OS/SYL
F96T8/TL70/35K	0	Ea		0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	0	Ea	1.83	"	3.34				
Install T8 Ballasts	 	1-	11.00	000	22.50	585	871	MEp211	OS/SYL
2-F32T8 Lamps	26	Ea	11.00	286	22.50	0	0/1	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50		0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0		OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	J	INIEHEIT	U3/31L
Install Reflectors		<u> </u>	1-2-	<u> </u>				(0)	NII = 10
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90		0		NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
			ļ		·		************	ļ	
Total Bare Costs				835	1	733	\$1,568	<u> </u>	1

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR

Building:

Pre-Design Study 13-040 RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR I	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				835		733	\$1,568		
	-		-20.0%	-167		0	(167)	MEp360	
Economy of Scale			-20.0%	-107				W. Poss	
Subtotal				668		733	1,401		
City Cost Index			-30.1%	-201	-3.5%	-26	(227)	MEp388	MEp388
Subtotal				467	•	707	1,174		
Contain	1 1								
OH & Profit Markups			50.0%	234	10.0%	71	305	MEpIBC	МЕр3
Subtotal				701		778	1,479		
000.0.0.									554
Sales Taxes				0	6.5%	51	51		PBA
Subtotal				701		829	1,530		
Contingency			10.0%	70	10.0%	83	153	МЕр4	MEp4
Subtotal				771		912	1,683		
000,000								204	
Design Fee	6.0%		ļ	101		0	101 101	PBA PBA	
SIOH	6.0%		 	101			101	FUA	
Total Const. Cost				973		912	\$1,885		
			<u> </u>						
				<u> </u>	<u> </u>				

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 13-060

Building:

Date: Estimator:

RS&H No.: 694-1331-001 23-Mar-95 W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	rity I	LAB	00 1	MATE	RIAI	TOTAL	SOUR	RCE
			\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Unit	\$/UTILL	Total	φ/Ο/πι	10.01			1
Fixture Removal			10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	10.01 14.66	44	0.00	- 6	44	MEp17	N/A
2x4 Fl Troffer	3	Ea		0	0.00	- 6	0	MEp18	N/A
4' FI Surf Strip	0	Ea	9.79		0.00	0	0	MEp17	N/A
4' Fl Surf Wrap	0	Ea	13.34	0		- 6	0	MEp18	N/A
4' Fl Pend Indust	0	Ea	12.57	0	0.00		0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	- 0	- 0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00		0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	26	MBp237	MBp237
Inst. Ceiling Tile	24	SF	0.36	9	0.72	17	20	NIBD237	MBD237
Fixture Installation								145-000	NII -10
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918 GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	. 0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	. 0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	68	Ea	1.83	124	0.00	0	124	MEp13	N/A
Remove Ballasts	34	Ea	11.00	374	0.00	0	374	MEp211	N/A
Remove Lampholders	34	Ea	2.29	78	0.00	0	78	(1)	N/A
Install T8 Lamps		T							
F32T8/TL70/35K	34	Ea	1.83	62	2.02	69	131	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	17	Ea	11.00	187	22.50	383	570	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00			0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	1 0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1 -	 	1						
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0				15.90	0	0	(3)	NLp18
2x4 Troffer	5				25.35	127	184	(4)	NLp18
234 1101191	 		+	 				 	1
Total Para Costs	+	+	+	935		596	\$1,531		
Total Bare Costs	<u> </u>		ــــــــــــــــــــــــــــــــــــــ	1 300			7.,001	·	

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building: 13-060

RS&H No.: Date:

694-1331-001 23-Mar-95 W.T.Todd

Estimator: W Filename: ES

EST-SUMP.WQ1

	QUAN	TITY	LAE	LABOR		ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				935		596	\$1,531		
							(1.07)	MEp360	
Economy of Scale			-20.0%	-187		0	(187)	MEDSOO	
O levered				748		596	1,344		
Subtotal	-			740					
City Cost Index			-30.1%	-225	-3.5%	-21	(246)	MEp388	MEp388
Subtotal				523		575	1,098		-
			50.000	262	10.0%	58	320	MEpiBC	MEp3
OH & Profit Markups			50.0%	202	10.0%	30	020	MILPIOO	IVICPO
Subtotal				785		633	1,418		
Subiolai	+								
Sales Taxes				0	6.5%	41	41		PBA
							4.450		
Subtotal				785	<u> </u>	674	1,459		
0		-	10.0%	79	10.0%	67	146	MEp4	MEp4
Contingency			10.076	7.5	10.070				
Subtotal				864		741	1,605		
Design Fee	6.0%			96	ļ	0	96	PBA PBA	
SIOH	6.0%	<u> </u>		96		0	96	FDA	-
Table Cont				1056		741	\$1,797		
Total Const. Cost			 	1000	-		¥.,,.		
									<u> </u>
						ļ			
		<u> </u>	<u> </u>	<u> </u>	<u> </u>			<u> </u>	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog. GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.
(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Location: Basis:

Building:

13-080

RS&H No.: 694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITV	LAB	OB I	MATE	RIAL	TOTAL	SOUP	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	140.	01111	Ψ, σ	10.0	-				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 FI Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	14	Ea	13.34	187	0.00	Ö	187	MEp17	N/A
4' FI Surf Wrap	0	Ea	12.57	0	0.00	Ö	0	MEp18	N/A
4' Fl Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	- 6	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	- 6	Ea	22.00	0	0.00	0	ō	MEp18	N/A
Low Bay Fixture			29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	0.63	9	0.37	5	14	MBp229	MBp229
Repair Plas Ceiling	14	SF		0	0.72	0	Ö	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36		0.72			Wiepzer	
Fixture Installation			07.50		70.05		0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95 186.27	0	0	MEp209	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0		- 0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	- 0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24 58.24		0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0			0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208 MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99		0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0			NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	14	Ea	31.43	440	75.54	1058	1,498	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	7	Ea	1.38	10	0.00	0	10	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	7	Ea	1.38	10	19.95	140	150	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	8	Ea	1.83	15	0.00	0	15	MEp13	N/A
Remove Ballasts	4	Ea	11.00	44	0.00	0	44	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps	1		T						
F32T8/TL70/35K	8	Ea	1.83	15	2.02	16	31	MEp13	DGSC
F96T8/TL70/35K	0		1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	 	 	T						
2-F32T8 Lamps	1 0	Ea	11.00	0	22.50	0	0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	2		11.00	22	24.50	49	71	MEp211	OS/SYL
2-F96T8 Lamps	1 6	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	╁	1 - 0	+	 	-33				
	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Strp or Indst	1 0	Ea			15.90	0	0	(3)	NLp18
4' Wrap or Surf					25.35	0	0	(4)	NLp18
2x4 Troffer	0	Ea	11.46	-	20.00			1 1 1	+
	 		 	750	+	1268	\$2,020	 	
Total Bare Costs		1	<u> </u>	752	<u> </u>	1200	Ψ2,020		1

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

13-080

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				752		1268	\$2,020		
			22.224	450		0	(150)	MEp360	
Economy of Scale			-20.0%	-150		U	(130)	MEDSOO	
Subtotal				602		1268	1,870		
000,000									
City Cost Index			-30.1%	-181	-3.5%	-44	(225)	MEp388	MEp388
Subtotal				421		1224	1,645		
Odbiola	· ·								
OH & Profit Markups			50.0%	211	10.0%	122	333	MEpiBC	МЕрЗ
						4040	4.070		
Subtotal				632		1346	1,978		
Sales Taxes				0	6.5%	88	88		PBA
00.00 10.00									
Subtotal				632		1434	2,066		
Contingency			10.0%	63	10.0%	143	206	MEp4	MEp4
Subtotal				695		1577	2,272		
Design Fee	6.0%	-	ļ	136		0	136	PBA	
SIOH	6.0%			136		0	136	PBA	
							20.544		
Total Const. Cost				967		1577	\$2,544		
		-							

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis: Building:

Pre-Design Study

13-100

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITV I	ΙΔΕ	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	140.	Orac	Ψ/ Ο ι ιιιι	10101	Ψ, σ, ι.ι.				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
	0	Ea	14.66	0	0.00	0	ō	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	9.79	- 0	0.00	0	0	MEp18	N/A
4' Fl Surf Strip	2	Ea	13.34	27	0.00	0	27	MEp17	N/A
4' Fl Surf Wrap	0	Ea	12.57	0	0.00	0	<u></u>	MEp18	N/A
4' Fi Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fi Pend Indust	0	Ea	11.00	- 0	0.00	- 6	0	MEp18	N/A
8' FI Surf Strip	0		22.00	- 6	0.00	- 6	0	MEp18	N/A
Low Bay Fixture		Ea Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	SF	0.63	1	0.37	1	2	MBp229	MBp229
Repair Plas Ceiling	2			0	0.37	Ö	0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	U	0.72	- 0		MIDDEST	10100201
Fixture Installation			07.50		70.05		0	MEnago	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0			GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208 MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0		GRp917 GRp918
4', 2 Lmp Ind w/Refi	0	Ea	38.61	0	58.24	0	0	MEp208	
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	. 0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	2	Ea	31.43	63	56.54	113	176	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea.	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	, 0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	38	Ea	1.83	70	0.00	0	70	MEp13	N/A
Remove Ballasts	19	Ea	11.00	209	0.00	0	209	MEp211	N/A
Remove Lampholders	2	Ea	2.29	5	0.00	0	5	(1)	N/A
Install T8 Lamps	1								
F32T8/TL70/35K	36	Ea	1.83	66	2.02	73	139	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	1		 					<u> </u>	
2-F32T8 Lamps	12	Ea	11.00	132	22.50	270	402	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	3	Ea	11.00	33	24.50	74	107	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0		Ö	0	MEp211	OS/SYL
Install Reflectors	 		1	 	1				
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
ZAT HORE	+	 _ _						1	1
Total Bare Costs	+	+	 	606	 	531	\$1,137		
TOTAL BATA COSTS				1 000	<u> </u>		71,107	1	

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

13-100

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUANTITY		LABOR		MATERIAL		TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				606		531	\$1,137		
Total Dare Costs	+			- 555					
Economy of Scale			-20.0%	-121		0	(121)	MEp360	
Subtotal				485		531	1,016		
City Cost Index	-		-30.1%	-146	-3.5%	-19	(165)	MEp388	MEp388
Subtotal				339		512	851		
Subtotal									
OH & Profit Markups			50.0%	170	10.0%	51	221	MEpIBC	МЕрЗ
Subtotal				509		563	1,072		
00010101									
Sales Taxes				0	6.5%	37	37		PBA
Subtotal				509		600	1,109		
Contingency			10.0%	51	10.0%	60	111	MEp4	MEp4
Subtotal				560		660	1,220		
Design Fee	6.0%			73		0	73	PBA	
SIOH	6.0%			73		0	73_	PBA	
Total Const. Cost				706		660	\$1,366		
			<u> </u>		<u> </u>	1		<u> </u>	<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.
 (3) Assume 20 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.
 (4) Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis:

Building:

13-110

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITV 1	LAE	OB T	MATE	RIAL	TOTAL	SOU	RCE
TEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	140.	Oill	Ψ/Οιπι	10.01	Ψ/ Ο	7,0,000			
Fixture Removal	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf 2x4 Fl Troffer	4	Ea	14.66	59	0.00	0	59	MEp17	N/A
4' FI Surf Strip	-	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fi Surf Wrap	- 6	Ea	13.34	- 0	0.00	Ö	0	MEp17	N/A
4' FI Pend Indust	0	Ea	12.57	ő	0.00	0	0	MEp18	N/A
	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	ō	0	MEp18	N/A
8' Fl Surf Strip Low Bay Fixture	- 6	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	32	SF	0.36	12	0.72	23	35	MBp237	MBp237
Fixture Installation	<u> </u>	5	0.00	14-					
	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	00	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust. 4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	ō	MEp208	GRp917
	0	Ea	38.61	0	58.24	0	ō	MEp208	GRp918
4', 2 Lmp Ind w/Refl 4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA Wet 4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades				_					
Remove Incand Lamps	1	Ea	1.38	1	0.00	0	1	MEp215	N/A
Install Integral CF	<u> </u>	 							
15W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	1	Ea	1.38	1	19.95	20	21	MEp215	NLp9
23W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	O	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	84	Ea	1.83	154	0.00	0	154	MEp13	N/A
Remove Ballasts	42	Ea	11.00	462	0.00	0	462	MEp211	N/A
Remove Lampholders	16	Ea	2.29	37	0.00	0	37	(1)	N/A
Install T8 Lamps		 	1						
F32T8/TL70/35K	68	Ea	1.83	124	2.02	137	261	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	† <u> </u>	1	1						
2-F32T8 Lamps	24	Ea	11.00	264	22.50	540	804	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	5	Ea	11.00	55	24.50	123	178	MEp211	OS/SYL
2-F96T8 Lamps	Ö	Ea	11.00	0		0	0	MEp211	OS/SYL
Install Reflectors	1	† <u></u>	1						
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0		9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0		11.46		25.35	0	0	(4)	NLp18
2.1 110.101	 	1	1						
Total Bare Costs	1	+	 	1169		843	\$2,012		
, , , , , , , , , , , , , , , , , , , ,	1								

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

13-110

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
				1100		843	£0.010		<u></u>
Total Bare Costs				1169		043	\$2,012		
Economy of Scale			-20.0%	-234		0	(234)	MEp360	
Subtotal				935		843	1,778		
City Cost Index			-30.1%	-281	-3.5%	-30	(311)	MEp388	MEp388
Subtotal				654		813	1,467		<i>i</i>
OH & Profit Markups			50.0%	327	10.0%	81	408	MEpiBC	МЕр3
Subtotal				981		894	1,875		
Sales Taxes				0	6.5%	58	58		PBA
Subtotal				981		952	1,933		
Contingency			10.0%	98	10.0%	95	193	МЕр4	MEp4
Subtotal				1079		1047	2,126		
Design Fee	6.0%			128		0	128	PBA	
SIOH	6.0%			128		0	128	PBA	
Total Const. Cost				1335		1047	\$2,382		
	_								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 16-210 & 16-220

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITV I	LAB		MATE	RIAI T	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	IVO.	Offic	φ/ OTIR	Total	\$,51.11	70.0.			
Fixture Removal	4	Ea	10.01	40	0.00	0	40	MEp17	N/A
2x2 UTF or Inc Surf	12	Ea	14.66	176	0.00	0	176	MEp17	N/A
2x4 Fl Troffer	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	0	Ea	13.34		0.00	0	0	MEp17	N/A
4' Fi Surf Wrap	- 6	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	ō	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	- 6	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	4	SF	0.63	3	0.37	1	4	MBp229	MBp229
Repair Plas Ceiling	96	SF	0.83	35	0.72	69	104	MBp237	MBp237
Inst. Ceiling Tile	30	35	0.30		0.72				
Fixture Installation		E.	27.50	55	79.95	160	215	MEp209	NLp12
11" Srf, 2-26W CFL	2	Ea Ea	27.50 95.65	0	186.27	100	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	- 0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	38.61	0	53.24	0	ő	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip	00	Ea	27.50	0	47.99	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	4	Ea	41.50	166	58.99	236	402	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	31.43	0	56.54	0	. 0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 2 Lamp WA w/Refl	0	Ea	41.50	0	71.58	ō	0	MEp208	NLp15
4', 4 Lamp WA 8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades		La	30.00		<u> </u>				
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF			1.00		3.00				
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	Ö	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bai	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	48	Ea	1.83	88	0.00	0	88	MEp13	N/A
Remove Ballasts	30	Ea	11.00	330	0.00	0	330	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps	 								
F32T8/TL70/35K	48	Ea	1.83	88	2.02	97	185	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	 	 							
2-F32T8 Lamps	30	Ea	11.00	330	22.50	675	1,005	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	Ö	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1								
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	o	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
	1 -	1							
Total Bare Costs		\top		1311		1238	\$2,549		
		1	<u> </u>						

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

16-210 & 16-220

Date:

RS&H No.: 694-1331-001 23-Mar-95

EST-SUMP.WQ1

Estimator: Filename:

W.T.Todd

QUAN			ABOR !		ERIAL	TOTAL	SOURCE	
No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Materia
			1311		1238	\$2,549		
-		-20.0%	-262		0	(262)	MEp360	
			1049		1238	2,287		
							115 000	145.000
		-30.1%	-316	-3.5%	-43	(359)	м⊵р388	MEp388
			733		1195	1,928		
		50.0%	367	10.0%	120	487	MEpiBC	МЕрЗ
			1100		1315	2,415		
			0	6.5%	86	86		PBA
			1100		1401	2 501		
-			1100					
		10.0%	110	10.0%	140	250	MEp4	MEp4
			1210		1541	2,751		
6.0%			165		0	165	РВА	
6.0%			165		0	165	PBA	
			1540		1541	\$3,081		
		,						
			50.0% 50.0% 10.0%	-20.0% -262	-20.0% -262	-20.0% -262 0 1049 1238 -30.1% -316 -3.5% -43 -733 1195 50.0% 367 10.0% 120 1100 1315 0 6.5% 86 1100 1401 10.0% 110 10.0% 140 1210 1541 6.0% 165 0 6.0% 165 0 1540 1541	-20.0% -262	-20.0% -262

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###. NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

31-010

RS&H No.: 694-1331-001

23-Mar-95 Date: Estimator:

W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	TITV	LAB	OR I	MATE	RIAL	TOTAL	SOU	RCE
TEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	140.	OTTAL	Ψ/Οιπ	10.0.	Ψ/ Ο	1 0.00			
Fixture Removal 2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 FI Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
	0	Ea	9.79	- 6	0.00	0	0	MEp18	N/A
4' Fl Surf Strip	0	Ea	13.34	- 6	0.00	0	ō	MEp17	N/A
4' Fi Surf Wrap	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	16.31	- 6	0.00	0	Ö	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	- 6	0.00	0	ō	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	- 6	0.00	0	0	MEp18	N/A
High Bay Fixture	0	SF	0.63	0	0.37	0	- 0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.83	- 6	0.72	0	ő	MBp237	MBp237
Inst. Ceiling Tile		٥٢	0.30	- 0	0.72			MSPEGI	
Fixture Installation			07.50	~	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50 95.65	0	186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
4', 2 Lamp Strip				0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50		56.54	- 6	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75			- 6	0	MEp208	NLp15
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54 71.58	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0		0	0	MEp208	GRp917
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44			WILDEGO	G. 15517
Fixture Upgrades			4.00	0	0.00	0	0	MEp215	N/A
Remove Incand Lamps	0	Ea	1.38	U	0.00		<u> </u>	MILPETO	14//
Install Integral CF	 _	 _	1.00	^	10.05	0	0	MEp215	NLp9
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	. 0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp10
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	44	MEp13	N/A
Remove Fluor Lamps	24	Ea	1.83	44	0.00	0		MEp211	N/A
Remove Ballasts	12	Ea	11.00	132	0.00	0	132	(1)	N/A
Remove Lampholders	0	Ea	2.29	0	0.00		<u> </u>	\ <u>\\\\</u>	19/7
Install T8 Lamps	<u> </u>	 	1	<u> </u>	0.00	40		ME-12	DGSC
F32T8/TL70/35K	24	Ea	1.83	44	2.02	48	92	MEp13	OS/SYL
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	<u> </u>		<u> </u>		1 22 22			NE 044	00/07
2-F32T8 Lamps	0	Ea	11.00	0	22.50	0	0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	6	Ea	11.00	66	24.50	147	213	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors			ļ					(2)	NII 40
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
									ļ
Total Bare Costs		<u> </u>	1	286	<u> </u>	195	\$481	<u> </u>	1

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

31-010

RS&H No.: 694-1331-001

Filename:

Date:

23-Mar-95 W.T.Todd

Estimator:

EST-SUMP.WQ1

	QUANTITY		LABOR		MATERIAL		TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
TICHI DEGGI III TICI.	1								
Total Bare Costs				286		195	\$481		
Economy of Scale			-20.0%	-57		0	(57)	MEp360	
Subtotal				229		195	424		
					0.504	-7	(76)	MEp388	MEp388
City Cost Index			-30.1%	-69	-3.5%	-1	(76)	MEDOOG	WILDOOD
				400		188	348		
Subtotal			· ·	160		100	040		
OH & Profit Markups	-		50.0%	80	10.0%	19	99	MEpIBC	МЕр3
On & Profit Markups			30.076		10.070				
Subtotal				240		207	447		
Gubiotal	<u> </u>								
Sales Taxes				0	6.5%	13	13		PBA
Subtotal				240		220	460		
					10.00	- 00	46	MEp4	MEp4
Contingency			10.0%	24	10.0%	22	46	MEP4	IVIED4
				064		242	506		
Subtotal	_			264		242	300		
Design Fee	6.0%			30	-	0	30	PBA	
SIOH	6.0%		-	30	 	0	30	PBA	
3011	- 0.070								
Total Const. Cost				324		242	\$566		
					1				
					ļ	ļ			
			<u> </u>						-
			<u> </u>	l	<u> </u>	<u> </u>	<u> </u>	<u> </u>	1

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Lighting Upgrade Pine Bluff Arsenal, AR

Project: Location:

Pre-Design Study 31-080

Basis: Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	IOR I	MATI	ERIAL	TOTAL	sou	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal		-	7, 5						
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	ō	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' FI Surf Strip	ō	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Pend Indust	Ö	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	ō	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	ō	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation	Ť	<u> </u>	- 0.00						
11* Srf. 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	ō	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	Ö	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Instail Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	, 0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	. 0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	90	Ea	1.83	165	0.00	0	165	MEp13	N/A
Remove Ballasts	45	Ea	11.00	495	0.00	0	495	MEp211	N/A
Remove Lampholders	22	Ea	2.29	50	0.00	0	50	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	68	Ea	1.83	124	2.02	137	261	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	ō	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	1								
2-F32T8 Lamps	14	Ea	11.00	154	22.50	315	469	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	10	Ea	11.00	110	24.50	245	355	MEp211	OS/SYL
2-F96T8 Lamps	Ō	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors									
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	ō	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
Total Bare Costs			1	1098		697	\$1,795		
		٠	<u> </u>			·			

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

31-080

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				1098		697	\$1,795		
							10.00		
Economy of Scale			-20.0%	-220		0	(220)	MEp360	
							4 575		
Subtotal				878		697	1,575		
City Cost Index	-		-30.1%	-264	-3.5%	-24	(288)	MEp388	MEp388
Only Cool mode									
Subtotal ·				614		673	1,287		
OH & Profit Markups	-		50.0%	307	10.0%	67	374	MEpiBC	MEp3
Orr ar roll martops									
Subtotal				921		740	1,661		
Sales Taxes				0	6.5%	48	48		PBA
						700	4 700		
Subtotal		<u> </u>	<u> </u>	921		788	1,709		<u> </u>
Contingency		È	10.0%	92	10.0%	79	171	MEp4	МЕр4
				4040		007	1.000		
Subtotal	-			1013		867	1,880		
Design Fee	6.0%			113		0	113	PBA	
SIOH	6.0%			113		0	113	PBA	

Total Const. Cost				1239		867	\$2,106		
	-								
		<u> </u>							
		<u> </u>			<u> </u>	<u> </u>		L	<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 32-030

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

TEM DESCRIPTION No. Unit SiUnit Total SiUnit Total COST Labor Malerial Fixture Removal No. Unit SiUnit Total COST Labor Malerial		QUAN	TITY	LAE	OR T	MAT	RIAL	TOTAL	SOU	RCE
Exture Removal	ITEM DESCRIPTION							COST	Labor	Material
22_UTF or Inc Surf 0										
2x4 Fi Troffer		0	Ea	10.01	0	0.00	0	0		
4°FI Surf Strip 0 Ea 9.79 0 0.00 0 0 MEp18 N/A 4°FI Pand Indust 0 Ea 12.57 0 0.00 0 0 0 MEp17 N/A 4°FI Pand Indust 0 Ea 12.57 0 0.00 0 0 0 MEp18 N/A 8°FI Pand Indust 0 Ea 12.57 0 0.00 0 0 0 MEp18 N/A 8°FI Pand Indust 0 Ea 12.57 0 0.00 0 0 0 MEp18 N/A 8°FI Pand Indust 0 Ea 11.00 0 0.00 0 0 0 MEp18 N/A 16°FI Surf Strip 0 Ea 11.00 0 0.00 0 0 0 MEp18 N/A 16°FI Surf Strip 0 Ea 11.00 0 0.00 0 0 0 MEp18 N/A 16°FI Surf Strip 0 Ea 22.00 330 0.00 0 330 MEp18 N/A 16°FI Surf Strip 0 Ea 22.00 330 0.00 0 0 MEp18 N/A 16°FI Surf Strip 0 Ea 29.34 0 0.00 0 0 0 MEp18 N/A 16°FI Surf Strip 0 Ea 27.50 0 0.37 0 0 MEp23 MBp223 16°FI Surf Strip 16°FI S		0			0	0.00	0	0	MEp17	
4*FI Surf Wrap 0 Ea 12.57 0 0.00 0 0 MEp17 N/A 4*FI Pend Indust 0 Ea 12.57 0 0.00 0 0 0 MEp18 N/A 8*FI Pend Indust 0 Ea 16.31 0 0.00 0 0 0 MEp18 N/A 8*FI Surf Strip 0 Ea 11.00 0 0.00 0 0 0 MEp18 N/A Low Bay Fixture 15 Ea 22.00 330 0.00 0 330 MEp18 N/A High Bay Fixture 0 Ea 29.34 0 0.00 0 0 MEp18 N/A High Bay Fixture 0 Ea 29.34 0 0.00 0 0 MEp18 N/A Repair Plas Ceilling 0 SF 0.83 0 0.37 0 0 MBp237 MEp237 Rist Ceiling Tile 0 SF 0.38 0 0.72 0 0 MEp237 MEp237 Fixture Installation 11* Sri, 2-26W CFL 0 Ea 27.50 0 79.95 0 0 MEp209 NLp12 High Bay, 1-100W MH 0 Ea 95.55 0 186.27 0 0 MEp209 Rep823 4*, 1 Lamp Indust 0 Ea 38.61 0 53.24 0 0 MEp208 GRp918 4*, 2 Lamp Indust 0 Ea 38.61 0 53.24 0 0 MEp208 GRp918 4*, 2 Lamp Indust 0 Ea 38.61 0 53.24 0 0 MEp208 GRp918 4*, 2 Lamp Strip 0 Ea 25.88 0 44.18 0 0 MEp208 GRp918 4*, 2 Lamp Strip 0 Ea 25.88 0 44.18 0 0 MEp208 GRp915 4*, 2 Lamp Strip 0 Ea 25.88 0 76.04 0 0 MEp208 MEp228 4*, 2 Lamp Troffer 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 2x4, 2 Lamp Troffer 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 2x4, 2 Lamp WA 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 4*, 2 Lamp WA 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp Indust. 2 Ea 50.00 1100 84.44 1859 2.958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 19.95 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 8*, 2 Lamp WA Wet 0 Ea 68.75 0 84.0					0	0.00	0	0	MEp18	
4*FI Pend Indust				_	0	0.00	0	0	MEp17	N/A
8 FI Pend Indust					0	0.00	0	0	MEp18	N/A
8* FI Surf Strip					0	0.00	0	0	MEp18	N/A
Low Bay Fixture						0.00	0	0	MEp18	N/A
High Bay Fixture					330		0	330	MEp18	N/A
Repair Plas Ceiling 0 SF 0.83 0 0.37 0 0 MBp229 MBp229 Inst. Ceiling Tile 0 SF 0.36 0 0.72 0 0 MBp237 MBp238 GRp918 GRp91							0	0	MEp18	N/A
Inst. Ceiling Tile						0.37	0	0	MBp229	MBp229
Fixture Installation							0	0	MBp237	MBp237
11 Sfr, 2-26W CFL										
High Bay, 1-100W MH		0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
4, 1 Lamp Indust. 0 Ea 36.99 0 52.34 0 0 MEp208 GRp918 4, 2 Lamp Indust. 0 Ea 38.61 0 53.24 0 0 MEp208 GRp917 4, 2 Lmp Ind w/Reff 0 Ea 38.61 0 58.24 0 0 0 MEp208 GRp917 4, 1 Lamp Strip 0 Ea 25.88 0 44.18 0 0 MEp208 GRp915 4, 2 Lamp Strip 0 Ea 27.50 0 47.99 0 0 MEp208 MLp15 2x4, 2 Lamp Strip 0 Ea 35.48 0 76.04 0 0 MEp208 NLp15 2x4, 2 Lamp Troffer 0 Ea 41.50 0 58.99 0 0 MEp207 NLp15 4, 2 Lamp WA 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 4, 2 Lamp WA w 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 4, 2 Lamp WA w 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4, 2 Lamp WA w 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA w 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA w 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4, 2 Lamp WA 0 Ea 1.38 0 19.95 0 0 MEp208 NLp15 8, 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 GR9917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 44 MEp211 N/A Remove Lampholders 0 Ea 2.29 0 0.00 0 0 0 MEp215 NLp9 F32T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp215 NLp9 F32T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 1nstall Reflectors 4 Strp or Indist 0 Ea 6.88 0 7.95 0 0 0 (2) NLp18 4 Wrap or Surf 0 Ea 6.88 0 7.95 0 0 0 (3) NLp18 2x4 Troffer 0 Ea 6.88 0 7.95 0 0 0 (4) NLp18							0	0	MEp208	
4', 2 Lamp Indust 0 Ea 38.61 0 53.24 0 0 MEp208 GRp918 4', 2 Lmp Ind w/Refi 0 Ea 38.61 0 58.24 0 0 MEp208 GRp918 4', 2 Lamp Strip 0 Ea 25.88 0 44.18 0 0 MEp208 NLp15 AL purp Strip 0 Ea 25.88 0 76.04 0 0 MEp208 NLp15 AL purp Strip 0 Ea 35.48 0 76.04 0 0 MEp208 NLp15 2x4, 2 Lamp Troffer 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 4', 2 Lamp WA Wet 0 Ea 81.43 0 56.54 0 0 MEp208 NLp15 4', 2 Lamp WA w/Refi 0 Ea 81.43 0 75.54 0 0 MEp208 NLp15 8', 2 Lamp Indust. 22 Ee 50.00 1100 84.44 1858 2.958 MEp208 NLp15					0	52.34	0	0		GRp918
4*, 2 Lmp Ind w/Refi					0		0	0		
4', 1 Lamp Strip 0 Ea 25.88 0 44.18 0 0 MEp208 RRp915 4', 2 Lamp Strip 0 Ea 27.50 0 47.99 0 0 MEp208 NLp15 2x4, 2 Lamp Strip 0 Ea 35.48 0 76.04 0 0 MEp208 MEp208 MEp208 2x4, 2 Lamp Troffer 0 Ea 41.50 0 58.99 0 0 MEp207 NLp15 4', 2 Lamp WA 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 4', 2 Lamp WA w/Feff 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4', 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4', 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 8'Exture Upgrades A 15.00 <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td>58.24</td> <td>0</td> <td>0</td> <td></td> <td></td>		0			0	58.24	0	0		
4*, 2 Lamp Strip 0 Ea 27.50 0 47.99 0 0 MEp208 NLp15 2x4, 2 Lamp Surf Mt 0 Ea 35.48 0 76.04 0 0 MEp208 MEp208 2x4, 2 Lamp WA 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 4*, 2 Lamp WA 0 Ea 68.75 0 84.04 0 0 MEp208 NLp15 4*, 2 Lamp WA 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4*, 2 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 4*, 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 8*, 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2.958 MEp208 ORAp917 Fixture Upgrades 15 15 50.00 <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>44.18</td> <td>0</td> <td>0</td> <td>MEp208</td> <td></td>					0	44.18	0	0	MEp208	
2x4, 2 Lamp Surf Mt 0 Ea 35.48 0 76.04 0 0 MEp208 MEp207 NLp15 2x4, 2 Lamp Troffer 0 Ea 41.50 0 58.99 0 0 MEp207 NLp15 4', 2 Lamp WA 0 Ea 31.43 0 56.54 0 0 MEp208 NLp15 4', 2 Lamp WA w/Refl 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4', 2 Lamp WA w/Refl 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 RRp917 Fixture Upgrades Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 19.95 0 0 MEp215 NLp3 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215					0	47.99	0	0	MEp208	
2x4, 2 Lamp Troffer		0			0	76.04	0	0	MEp208	MEp208
4', 2 Lamp WA 0 Ea 31.43 0 \$68.54 0 0 MEp208 NLp15 4', 2 Lamp WA Wet 0 Ea 68.75 0 \$4.04 0 0 MEp210 MEp210 MEp208 NLp15 8', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2.958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 0 0 MEp215 NLp 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 0 MEp215 NLp9 23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 0 MEp215 NLp9 23W w/ Mag Bal 0 Ea 1.38 0 19.95 0 0 0 MEp215 NLp9 23W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp10 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 44 MEp211 N/A Remove Ballasts F32T8/TL70/35K 8 Ea 1.83 15 2.02 16 31 MEp13 DGSC F96T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC F98T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC F98T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp211 OS/SYL 3-F32T8 Lamps 0 Ea 11.00 0 24.50 0 MEp211 OS/SYL Install Reflectors 4' Strp or Indst 0 Ea 6.88 0 7.95 0 0 (4) NLp18 0 NLp18 NLp18					0	58.99	0	0		
4', 2 Lamp WA Wet 0 Ea 68.75 0 84.04 0 0 MEp210 MEp210 4', 2 Lamp WA w/Reft 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4', 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 8', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 MEp215 N/A Install Integral CF					0	56.54	0	0	MEp208	
4', 2 Lamp WA w/Refi 0 Ea 31.43 0 75.54 0 0 MEp208 NLp15 4', 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 8', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 MEp205 GRp917 Install Integral CF 15W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 23W w/ Mag Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp18 Remove Fluor					0	84.04	0	0	MEp210	MEp210
4', 4 Lamp WA 0 Ea 41.50 0 71.58 0 0 MEp208 NLp15 8', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 MEp215 N/A Install Integral CF 15W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp19 NLp10 NLp10 MEp215 NLp10 NLp10 NLp10 NLp10 NLp18 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15	4', 2 Lamp WA w/Refl	0			0	75.54	0	0		
8', 2 Lamp Indust. 22 Ea 50.00 1100 84.44 1858 2,958 MEp208 GRp917 Fixture Upgrades Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 MEp215 N/A Install Integral CF Install Integral CF 0 0 0 0 MEp215 NLp9 20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp9 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 4 MEp13 N/A Install T8 Lamps 0 Ea 1.83			Ea	41.50	0	71.58	0			
Fixture Upgrades Remove Incand Lamps O Ea 1.38 O 0.00 O O MEp215 N/A		22	Ea	50.00	1100	84.44	1858	2,958	MEp208	GRp917
Remove Incand Lamps 0 Ea 1.38 0 0.00 0 0 MEp215 N/A										
Install Integral CF		0	Ea	1.38	0	0.00	0	0	MEp215	N/A
15W w/ Elec Bal										
20W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp10 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 44 MEp211 N/A Remove Lampholders 0 Ea 2.29 0 0.00 0 0 (1) N/A Install T8 Lamps 0 Ea 1.83 15 2.02 16 31 MEp13 DGSC F96T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp13 DGSC Install T8 Ballasts 1 Ea 1.83 0		0	Ea	1.38	0	19.95		0		
23W w/ Elec Bal 0 Ea 1.38 0 19.95 0 0 MEp215 NLp9 28W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp10 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 44 MEp211 N/A Remove Lampholders 0 Ea 2.29 0 0.00 0 0 (1) N/A Install T8 Lamps		0	Ea	1.38	0	19.95	0	0		
28W w/ Mag Bal 0 Ea 1.38 0 29.95 0 0 MEp215 NLp10 Remove Fluor Lamps 8 Ea 1.83 15 0.00 0 15 MEp13 N/A Remove Ballasts 4 Ea 11.00 44 0.00 0 44 MEp211 N/A Remove Lampholders 0 Ea 2.29 0 0.00 0 0 (1) N/A Install T8 Lamps 0 Ea 1.83 15 2.02 16 31 MEp13 DGSC F96T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp13 DGSC F832T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC Install T8 Ballasts 2-F32T8 Lamps 4 Ea 11.00 44 22.50 90 134 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 1		0	Ea	1.38	0	19.95		0		
Remove Fluor Lamps		0	Ea	1.38	0	29.95		0		
Remove Ballasts		8	Ea	1.83	15	0.00	0	15	MEp13	
Install T8 Lamps		4	Ea	11.00	44	0.00				
Install T8 Lamps	Remove Lampholders	0	Ea	2.29	0	0.00	0	. 0	(1)	N/A
F32T8/TL70/35K 8 Ea 1.83 15 2.02 16 31 MEp13 DGSC F96T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp13 OS/SYL FB32T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC Install T8 Ballasts 2-F32T8 Lamps 4 Ea 11.00 44 22.50 90 134 MEp211 OS/SYL 3-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 4' Strp or Indst 0 Ea 6.88 0 7.95 0 0 (2) NLp18 2x4 Troffer										
F96T8/TL70/35K 0 Ea 1.83 0 6.40 0 0 MEp13 OS/SYL FB32T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC Install T8 Ballasts 0 2-F32T8 Lamps 4 Ea 11.00 44 22.50 90 134 MEp211 OS/SYL 3-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea </td <td></td> <td>8</td> <td>Ea</td> <td>1.83</td> <td>15</td> <td>2.02</td> <td></td> <td></td> <td></td> <td></td>		8	Ea	1.83	15	2.02				
FB32T8/TL70/35K 0 Ea 1.83 0 9.34 0 0 MEp13 DGSC Install T8 Ballasts 2-F32T8 Lamps 4 Ea 11.00 44 22.50 90 134 MEp211 OS/SYL 3-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (4) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18		0		1.83	0	6.40				
Install T8 Ballasts		0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
2-F32T8 Lamps 4 Ea 11.00 44 22.50 90 134 MEp211 OS/SYL 3-F32T8 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18										
3-F3278 Lamps 0 Ea 11.00 0 23.50 0 0 MEp211 OS/SYL 4-F3278 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F9678 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18		4	Ea	11.00	44	22.50	90	134		
4-F32T8 Lamps 0 Ea 11.00 0 24.50 0 0 MEp211 OS/SYL 2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18	1	0	Ea	11.00	0	23.50				
2-F96T8 Lamps 0 Ea 11.00 0 35.00 0 0 MEp211 OS/SYL Install Reflectors Install Reflectors 0		0	Ea	11.00	0	24.50				
Install Reflectors 4' Strp or Indst 0 Ea 6.88 0 7.95 0 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18		0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
4' Strp or Indst 0 Ea 6.88 0 7.95 0 0 (2) NLp18 4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18										
4' Wrap or Surf 0 Ea 9.17 0 15.90 0 0 (3) NLp18 2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18		0	Ea	6.88	0					
2x4 Troffer 0 Ea 11.46 0 25.35 0 0 (4) NLp18		0	Ea	9.17	0	15.90	0	0		
A1000000000		0	Ea	11.46	0	25.35	0	0	(4)	NLp18
Total Bare Costs 1548 1964 \$3,512		T						***********		
	Total Bare Costs				1548		1964	\$3,512		

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

32-030

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator:

W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	TITY	LAE	3OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				1548		1964	\$3,512		
Economy of Scale			-20.0%	-310		0	(310)	MEp360	
				4000		1964	3,202		
Subtotal	-			1238		1904	3,202		
0: 0 11-1-1			-30.1%	-373	-3.5%	-69	(442)	MEp388	MEp388
City Cost Index			~30.176	275	70.076				
Subtotal				865		1895	2,760		
Sobiotal									
OH & Profit Markups			50.0%	433	10.0%	190	623	MEpIBC	MEp3
		<u> </u>							
Subtotal				1298		2085	3,383		
									004
Sales Taxes			<u> </u>	0	6.5%	136	136		PBA
		ļ		1000		2221	3,519		
Subtotal		<u> </u>		1298	<u> </u>	2221	3,319		
0			10.0%	130	10.0%	222	352	MEp4	MEp4
Contingency		 	10.070		1				
Subtotal				1428		2443	3,871		
	6.0%		ļ	232		0	232	PBA	
Design Fee SIOH	6.0%		-	232		0	232	PBA	
SIUH	0.078								
Total Const. Cost		+	 	1892		2443	\$4,335		
, 5.6. 55.16. 55.									
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LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA

Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each. (1) Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project:

Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis: Building:

32-035

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV I	LAB	OR I	MATE	RIAI	TOTAL	SOUP	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	140.	Office	Ψ/ΟΤΙΙ		Ψ, σ				
Fixture Removal	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	9.79	0	0.00	Ö	0	MEp18	N/A
4' FI Surf Strip	0	Ea	13.34	0	0.00	0	ō	MEp17	N/A
4' Fl Surf Wrap	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	ō	MEp18	N/A
8' Fi Pend Indust	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	- 6	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	- 6	o l	MEp18	N/A
High Bay Fixture	0	SF	0.63	- 6	0.37	0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.83	0	0.72	0	0	MBp237	MBp237
Inst. Ceiling Tile	- 0	SF	0.30		0.72				
Fixture Installation			07.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50 95.65	0	186.27	0	- 6	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99		52.34	- 6	- 6	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	38.61	- 6	53.24	- 6	- 0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea		- 0	58.24	0	<u> </u>	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61 25.88	0	44.18		0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	27.50	0	47.99	0	ől	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea		0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50		56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	31.43	0		0	0	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04		0	MEp208	NLp15
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	GRp917
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44			WEDZOO	Grips 17
Fixture Upgrades			4.00		0.00	0	0	MEp215	N/A
Remove Incand Lamps	0	Ea	1.38	0	0.00			WILDETO	13//
Install Integral CF			4 00		10.05	0	0	MEp215	NLp9
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bai	0	Ea	1.38	0	19.95		0	MEp215	NLp10
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	922	MEp213	N/A
Remove Fluor Lamps	504	Ea	1.83	922	0.00	0		MEp13	N/A
Remove Ballasts	252	Ea	11.00	2772	0.00		2,772		N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	IN/A
Install T8 Lamps		 	<u> </u>		6.00	1010	1 040	ME-12	DGSC
F32T8/TL70/35K	504	Ea	1.83	922	2.02	1018	1,940	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts			<u> </u>				0.116	ME-044	OCIOVI
2-F32T8 Lamps	252		11.00	2772	22.50	5670	8,442		OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00		24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors								/81	NI 46
4' Strp or Indst	0	Ea	6.88		7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17		15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
									<u> </u>
Total Bare Costs				7388	<u> </u>	6688	\$14,076	<u> </u>	1

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study

32-035

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				7388		6688	\$14,076		
				1.50			(4.470)	ME=260	
Economy of Scale			-20.0%	-1478		0	(1,478)	MEp360	
Subtotal				5910		6688	12,598		
City Cost Index			-30.1%	-1779	-3.5%	-234	(2,013)	MEp388	MEp388
							40.505		
Subtotal	1			4131		6454	10,585		
OH & Profit Markups	-		50.0%	2066	10.0%	645	2,711	MEpIBC	МЕр3
Subtotal				6197		7099	13,296		
Sales Taxes	+			0	6.5%	462	462		PBA
Subtotal				6197		7561	13,758		
Contingency			10.0%	620	10.0%	756	1,376	МЕр4	MEp4
Subtotal				6817		8317	15,134		
Design Fee	6.0%			908		0	908	PBA	
SIOH	6.0%			908		0	908	PBA	
					ļ	0217	616.050		
Total Const. Cost				8633		8317	\$16,950		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. **PBA**

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project:

Lighting Upgrade Pine Bluff Arsenai, AR

Location: Basis:

Pre-Design Study 32-060

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITY I	LAE	OR I	MATE	FRIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	140.		Ψ/ Ο		*,				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	- 6	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Wrap	0	Ea	13.34	0	0.00	ō	0	MEp17	N/A
4' FI Pend Indust	0	Ea	12.57	0	0.00	ō	0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.36	0	0.72	0	ō	MBp237	MBp237
Inst. Ceiling Tile	- 0	5	. 0.30		0.72				
Fixture Installation		E0.	27.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea Ea	95.65	0	186.27	0	Ö	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	25.88	0	44.18	0	ō	MEp208	GRp915
4', 1 Lamp Strip	0		27.50	0	47.99	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt		Ea	41.50	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea		0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75		75.54	0	0	MEp218	NLp15
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	71.58	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50 50.00	0	84.44	0	0	MEp208	GRp917
8', 2 Lamp Indust.	U	Ea	50.00	U	04.44	-		WILDEGO	Gripoti
Fixture Upgrades	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Remove Incand Lamps	- 0	Ea.	1.56		0.00			WCP2.0	7,7,1
Install Integral CF	 		1.38	0	19.95	0	0	MEp215	NLp9
15W w/ Elec Bal	0	Ea		0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38			0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95 29.95	0	0	MEp215	NLp10
28W w/ Mag Bal	0	Ea	1.38	0	0.00	0	38	MEp13	N/A
Remove Fluor Lamps	21	Ea	1.83	38		0	132	MEp13	N/A
Remove Ballasts	12	Ea	11.00	132	0.00	0	0	(1)	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	<u> </u>	<u> </u>		13/0
Install T8 Lamps	 	 	1 00	16	2.02	18	34	MEp13	DGSC
F32T8/TL70/35K	9	Ea	1.83	16	6.40	77	99	MEp13	OS/SYL
F96T8/TL70/35K	12	Ea	1.83	22		0	0	MEp13	DGSC
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	U		IVICPIO	5000
Install T8 Ballasts	 	 	11.00	0	22.50	0	0	MEp211	OS/SYL
2-F32T8 Lamps	0	Ea	11.00	33	23.50	71	104	MEp211	OS/SYL
3-F32T8 Lamps	3	Ea	11.00		24.50	0	104	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0			276	MEp211	OS/SYL
2-F96T8 Lamps	6	Ea	11.00	66	35.00	210	210	WIEDZII	00/012
Install Reflectors	 	-			7.05			(0)	NI n10
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0		(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
	ļ	-			 	070	#CCC		
Total Bare Costs	<u> </u>	<u> </u>	<u> </u>	307		376	\$683	1	<u> </u>

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

32-060

Building:

Pre-Design Study

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAB	LABOR		ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				307		376	\$683		
Economy of Scale			-20.0%	-61		0	(61)	MEp360	
Subtotal				246		376	622		
City Cost Index			-30.1%	-74	-3.5%	-13	(87)	MEp388	MEp388
Subtotal				172		363	535		
OH & Profit Markups			50.0%	86	10.0%	36	122	MEpIBC	МЕр3
Subtotal				258		399	657		
Sales Taxes				0	6.5%	26	26		PBA
Subtotal				258		425	683		
Contingency			10.0%	26	10.0%	43	69	MEp4	MEp4
Subtotal				284		468	752		
Design Fee	6.0%			45		0	45	PBA	
SIOH	6.0%			45	<u> </u>	0	45	PBA	
Total Const. Cost				374		468	\$842		
						·		•	
	<u> </u>								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA

Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2) Assume 20 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

32-070

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITV	LAB	OB I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	-110.	-							
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	14.66	Ō	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	- 6	Ea	9.79	ō	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	0	Ea	13.34	ō	0.00	0	0	MEp17	N/A
4' FI Pend Indust	0	Ea	12.57	ō	0.00	0	0	MEp18	N/A
8' FI Pend Indust	1	Ea	16.31	16	0.00	0	16	MEp18	N/A
8' FI Surf Strip	Ö	Ea	11.00	0	0.00	0	0	MEp18	N/A
	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Repair Plas Ceiling	- 0	SF	0.36	- 6	0.72	0	Ö	MBp237	MBp237
Inst. Ceiling Tile		or	0.30		0.72				
Fixture Installation			07.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	- 0	186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61		58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0		0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04		0		NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0		MEp207	
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades								115 045	\$1/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	212	Ea	1.83	388	0.00	0	388	MEp13	N/A
Remove Ballasts	106	Ea	11.00	1166	0.00	0	1,166	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	12	Ea	1.83	22	2.02	24	46_	MEp13	DGSC
F96T8/TL70/35K	200	Ea	1.83	366	6.40	1280	1,646	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts								1	
2-F32T8 Lamps	0	Ea	11.00	0	22.50	0	0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	3	Ea	11.00	33	24.50	74	107	MEp211	OS/SYL
2-F96T8 Lamps	100	Ea	11.00	1100	35.00	3500	4,600	MEp211	OS/SYL
Install Reflectors	1			· · · · · · · · · · · · · · · · · · ·					
4' Strp or Indst	0	Ea	6.88	0	7.95	0	. 0	(2)	NLp18
4' Wrap or Surf	ō	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	. 0	(4)	NLp18
241 1101101	1	 ==	<u> </u>	·	T				<u> </u>
Total Bare Costs	 	 	 	3091	 	4878	\$7,969		1
10101 0010 00310	<u> </u>		 		<u> </u>		,	t	1

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

32-070

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				3091		4878	\$7,969		
							(01.0)	145-000	
Economy of Scale			-20.0%	-618		0	(618)	MEp360	
Cultantal				2473		4878	7,351		
Subtotal				2470		1070	.,,		
City Cost Index			-30.1%	-744	-3.5%	-171	(915)	MEp388	МЕр388
				1729		4707	6,436		
Subtotal				1725		4707	0,400		<u> </u>
OH & Profit Markups	+		50.0%	865	10.0%	471	1,336	MEpIBC	MEp3
Subtotal				2594		5178	7,772		
							002		PBA
Sales Taxes				0	6.5%	337	337		FDA
Subtotal				2594		5515	8,109		
Contingency			10.0%	259	10.0%	552	811	MEp4	MEp4
Contingency	1		10.070						
Subtotal				2853		6067	8,920		
Design Fee	6.0%			535		0	535	PBA	
SIOH	6.0%			535		0	535	PBA	
							#0.000		
Total Const. Cost	-			3923		6067	\$9,990		
	-								
									<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. **PBA**

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study

32-090

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

_	OLIANI	T1777	LAB	08 1	MATE	BIAL T	TOTAL	sour	RCE
	QUAN			Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	φ/Οτιιι	1 Otal			
Fixture Removal			40.04		0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	. 0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0			0	MEp18	N/A
4' FI Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp17	N/A
4' FI Surf Wrap	0	Ea	13.34	0	0.00	0			N/A
4' FI Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation									
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	ō	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	ō	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades	 		-						
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF	 								
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal 23W w/ Elec Bal	0	Ea	1.38	0	19.95	ō	0	MEp215	NLp9
	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
28W w/ Mag Bal Remove Fluor Lamps	240	Ea	1.83	439	0.00	ō	439	MEp13	N/A
Remove Pluor Lamps Remove Ballasts	120	Ea	11.00	1320	0.00	0	1,320	MEp211	N/A
	118	Ea	2.29	270	0.00	0	270	(1)	N/A
Remove Lampholders	110	_ <u> </u>	2.23	210	3.00	<u>-</u>			
Install T8 Lamps	100	Ea	1.83	223	2.02	246	469	MEp13	DGSC
F32T8/TL70/35K	122		1.83	223	6.40	240	700	MEp13	OS/SYL
F96T8/TL70/35K	0	Ea		1 0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	0	Ea	1.83	<u> </u>	3.34		- 0	WILDIO	
Install T8 Ballasts	 	 	14.00	640	20.50	1328	1,977	MEp211	OS/SYL
2-F32T8 Lamps	59	Ea	11.00	649	22.50	1328	1,977	MEp211	OS/SYL
3-F32T8 Lamps	0		11.00	0	23.50				OS/SYL
4-F32T8 Lamps	1	Ea	11.00	11	24.50	25	36	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	USISTE
Install Reflectors			-	ļ	 			(0)	NII = 40
4' Strp or Indst	0		6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	24		9.17	220		382	602	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
					·			ļ	
Total Bare Costs				3132		1981	\$5,113	<u> </u>	1

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

32-090

RS&H No.:

694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				3132		1981	\$5,113		
Economy of Scale			-20.0%	-626		0	(626)	MEp360	<u> </u>
Subtotal				2506		1981	4,487		
City Cost Index		l	-30.1%	-754	-3.5%	-69	(823)	MEp388	МЕр388
Subtotal				1752		1912	3,664		
OH & Profit Markups			50.0%	876	10.0%	191	1,067	MEpIBC	МЕр3
Subtotal				2628		2103	4,731		
Sales Taxes				0	6.5%	137	137		PBA
Subtotal				2628		2240	4,868		
Contingency			10.0%	263	10.0%	224	487	MEp4	MEp4
Subtotal				2891		2464	5,355		
Design Fee	6.0%			321	·	0	321	PBA	
SIOH	6.0%			321		0	321	PBA	
Total Const. Cost				3533		2464	\$5,997		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

32-090

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
				3132		1981	\$5,113		
Total Bare Costs		-		3132		1301	φο,ττο		
Economy of Scale			-20.0%	-626		0	(626)	МЕр360	
Subtotal				2506		1981	4,487		
City Cost Index	-		-30.1%	-754	-3.5%	-69	(823)	MEp388	MEp388
Subtotal				1752		1912	3,664		
OH & Profit Markups			50.0%	876	10.0%	191	1,067	MEpIBC	МЕрЗ
						0400	4.704		
Subtotal				2628		2103	4,7 <u>3</u> 1		
Sales Taxes				0	6.5%	137	137		PBA
Subtotal				2628		2240	4,868		
Contingency			10.0%	263	10.0%	224	487	MEp4	MEp4
Subtotal				2891		2464	5,355		
Design Fee	6.0%	-		321	<u> </u>	0	321	РВА	
SIOH	6.0%			321		0	321	PBA	
						0404	ec 007		
Total Const. Cost			ļ	3533		2464	\$5,997		
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	+								
									ļ
						<u> </u>			
		<u> </u>		<u> </u>		<u> </u>		l	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

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OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 32-100

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN'	TITY	LAB	OB I	MAT	ERIAL T	TOTAL	sou	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.	01111	φροτικ	10.0.	- 	7 0.0			
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fi Troffer	- 6	Ea	14.66	- 6	0.00	0	0	MEp17	N/A
	- 6	Ea	9.79	0	0.00	0	ō	MEp18	N/A
4' FI Surf Strip	3	Ea	13.34	40	0.00	0	40	MEp17	N/A
4' Fi Surf Wrap	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' Fi Pend Indust 8' Fl Pend Indust	- 0	Ea	16.31	0	0.00	- 0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	- 6	0.00	- 6	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	. 0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	3	SF	0.63	2	0.37	1	3	MBp229	MBp229
	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Inst. Ceiling Tile	- 0	- JF	0.50		0.72				
Fixture Installation 11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
	-	Ea	95.65	0	186.27	0	ō	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust. 4', 2 Lamp Indust.	0	Ea Ea	38.61	0	53.24	0	- 0	MEp208	GRp917
	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	25.88	0	44,18	0	- 0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	27.50	0	47.99	0	ō	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	00	Ea	41.50	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	68.75	0	84.04	0	ō	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 2 Lamp WA w/Refl	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
4', 4 Lamp WA 8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades		La	30.00		07.77				
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF			1.00		0.00				
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	ō	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	464	Ea	1.83	849	0.00	ō	849	MEp13	N/A
Remove Ballasts	232	Ea	11.00	2552	0.00	0	2,552	MEp211	N/A
Remove Lampholders	188	Ea	2.29	431	0.00	ō	431	(1)	N/A
Install T8 Lamps	1			~·		<u>-</u>		· · · ·	
F32T8/TL70/35K	190	Ea	1.83	348	2.02	384	732	MEp13	DGSC
F96T8/TL70/35K	80	Ea	1.83	146	6.40	512	658	MEp13	OS/SYL
FB32T8/TL70/35K	12	Ea	1.83	22	9.34	112	134	MEp13	DGSC
Instail T8 Ballasts	'=	La	1.00		- 3.57	1			
2-F32T8 Lamps	86	Ea	11.00	946	22.50	1935	2,881	MEp211	OS/SYL
3-F32T8 Lamps	6	Ea	11.00	66	23.50	141	207	MEp211	OS/SYL
4-F32T8 Lamps	3	Ea	11.00	33	24.50	74	107	MEp211	OS/SYL
2-F96T8 Lamps	40	Ea	11.00	440	35.00	1400	1,840	MEp211	OS/SYL
Install Reflectors	1 70	La	11.00	1 440	1 23.00	1700	1,5.0		
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	3	Ea	11.46	34	25.35	76	110	(4)	NLp18
ZX4 I FOTTEF	3	<u> a</u>	11.40		20.00	70		\\ <u></u>	112010
Total Base Costs	 		+	5909	 	4635	\$10,544	 	
Total Bare Costs	Ī	1	1	1303	J	7000	Ψ ι Ο, Ο Τ Τ	<u> </u>	<u> </u>

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

32-100

RS&H No.: 694-1331-001

23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAF	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
TICH DESCRIPTION									
Total Bare Costs				5909		4635	\$10,544		
Economy of Scale			-20.0%	-1182		0	(1,182)	MEp360	
Subtotal				4727		4635	9,362		
							(4.505)	145-000	ME-200
City Cost Index			-30.1%	-1423	-3.5%	-162	(1,585)	MEp388	MEp388
						4470	7 777		
Subtotal				3304		4473	7,777		
			E0.004	1050	10.0%	447	2,099	MEpIBC	MEp3
OH & Profit Markups			50.0%	1652	10.0%	447	2,099	MEDIDO	IVILPO
				4956		4920	9,876		
Subtotal				4930		7320	3,373		
Sales Taxes	-			0	6.5%	320	320		PBA
Sales Taxes		 			0.077				
Subtotal			 	4956		5240	10,196		
Oublotai									
Contingency			10.0%	496	10.0%	524	1,020	MEp4	MEp4
Subtotal				5452		5764	11,216		
Design Fee	6.0%			673		0	673	PBA	
SIOH	6.0%			673		0	673	PBA	
									ļ
Total Const. Cost				6798		5764	\$12,562		
			<u> </u>						
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LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

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NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Location: Basis:

Building:

32-130

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

	QUAN	TITY	LAB	OR	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal									
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	1	Ea	13.34	13	0.00	0	13	MEp17	N/A
4' Fl Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fi Pend indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	1	SF	0.63	1	0.37	0	1	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation									
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	ō	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	ō	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	ō	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	Ö	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	ō	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades			00.00	<u>~</u> _	•			<u> </u>	
Remove Incand Lamps	2	Ea	1.38	3	0.00	0	3	MEp215	N/A
Install Integral CF			1.00						
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	ō	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	ō	0	MEp215	NLp9
28W w/ Mag Bal	2	Ea	1.38	3	29.95	60	63	MEp215	NLp10
Remove Fluor Lamps	194	Ea	1.83	355	0.00	. 0	355	MEp13	N/A
Remove Ballasts	97	Ea	11.00	1067	0.00	ō	1,067	MEp211	N/A
Remove Lampholders	96	Ea	2.29	220	0.00	0	220	(1)	N/A
	30	La	2.20		0.00				
Install T8 Lamps F32T8/TL70/35K	98	Ea	1.83	179	2.02	198	377	MEp13	DGSC
	0	Ea	1.83	1/3	6.40	130	0.7	MEp13	OS/SYL
F96T8/TL70/35K	1 0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	 	ca	1.03	 	3.04				
Install T8 Ballasts	40	Ea	11.00	539	22.50	1103	1,642	MEp211	OS/SYL
2-F32T8 Lamps	49	Ea	11.00	339	23.50	1103	1,042	MEp211	OS/SYL
3-F32T8 Lamps	1 0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	1 0		11.00	0	35.00	0	0	MEp211	OS/SYL
2-F96T8 Lamps	"	Ea	11.00		1 33.00	 			1
Install Reflectors	+ _	 	6 00	0	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88	0	15.90	0	0	(3)	NLp18
4' Wrap or Surf	0	Ea	9.17	0		0	0	(4)	NLp18
2x4 Troffer	0	Ea	11.46	ļ <u>u</u>	25.35	"		 	145010
			 	0000	 	1001	\$2.744		-
Total Bare Costs		1		2380	1	1361	\$3,741	<u> </u>	<u> </u>

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR Pre-Design Study

Basis: Building:

32-130

RS&H No.:

694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2380		1361	\$3,741		
Economy of Scale			-20.0%	-476		0	(476)	MEp360	
Subtotal				1904		1361	3,265		
City Cost Index			-30.1%	-573	-3.5%	-48	(621)	MEp388	MEp388
Subtotal				1331		1313	2,644		
					10.0-4	101		MENDO	ME-2
OH & Profit Markups			50.0%	666	10.0%	131	797	MEpIBC	МЕрЗ
						4444	2 441		
Subtotal				1997		1444	3,441		
					6.5%	94	94		PBA
Sales Taxes		-		0	0.3%	34	34	<u> </u>	157
				1997		1538	3,535		
Subtotal	_	-		1337		1300	0,000		
Cartingonou			10.0%	200	10.0%	154	354	MEp4	MEp4
Contingency			10.070		10.070				
Subtotal			 	2197		1692	3,889		
Subtotal	+		 						
Design Fee	6.0%	 		233		0	233	PBA	
SIOH	6.0%			233		0	233	PBA	
Total Const. Cost	_			2663		1692	\$4,355		
					<u> </u>		<u> </u>	<u> </u>	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis:

Building:

32-150

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV I	LAE	OB I	MATE	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ, σ. ι	10.00	* / • · · · ·				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	14.66	ō	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	- 0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' Fl Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	- 0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
	0	Ea	29.34	- 6	0.00	0	0	MEp18	N/A
High Bay Fixture	0	SF	0.63	0	0.37	0	 	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.36	0	0.72	0	ŏ	MBp237	MBp237
Inst. Ceiling Tile	- 0	35	0.30		0.72			MODEON	11.5 525.
Fixture Installation			07.50		70.05	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95 186.27	0	- 0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65 36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl				0	44.18	- 6	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	47.99	- 6	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50			0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04		0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0		NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0		MEp208 MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0		
4', 2 Lamp WA w/Refi	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades					0.00			145-015	N/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	IN/A
Install Integral CF								145 045	NH =0
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	48	Ea	1.83	88	0.00	0	88	MEp13	N/A
Remove Ballasts	24	Ea	11.00	264	0.00	0	264	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	48	Ea	1.83	88	2.02	97	185	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	24	Ea	11.00	264	22.50	540	804	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL_
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	T								
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	4	Ea	9.17	37	15.90	64	101	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
		1							
Total Bare Costs	 			741		701	\$1,442		
		4							

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

32-150

RS&H No.:

694-1331-001

Date:

23-Mar-95

Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LA	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				741		701	\$1,442		
Economy of Scale			-20.0%	-148		0	(148)	MEp360	
Subtotal				593		701	1,294		
City Cost Index			-30.1%	-178	-3.5%	-25	(203)	MEp388	MEp388
Subtotal				415		676	1,091		
					10.001		070	MENIRO	M5-2
OH & Profit Markups			50.0%	208	10.0%	68	276	MEpIBC	МЕр3
						744	1.267		
Subtotal				623		744	1,367	 	
				0	6.5%	48	48		PBA
Sales Taxes			ļ	-	0.3%	40	40		1 0/
0.1444				623		792	1,415		
Subtotal				023		132	1,415		
Cottingon			10.0%	62	10.0%	79	141	MEp4	MEp4
Contingency			10.070		10.070				
Subtotal		 		685		871	1,556		
Gubiotai									
Design Fee	6.0%			93		0	93	PBA	
SIOH	6.0%			93		0	93	PBA	
Total Const. Cost				871		871	\$1,742		
									<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL

Telephone quote from Osram/Sylvania representative.

PBA

Information provided by Pine Bluff Arsenal staff.

(1)

Assume lampholder removal takes 5 minutes each.

(2) (3) Assume 15 minutes for installation of reflector. Assume 20 minutes for installation of reflector.

(4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 33-060

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITY	LAE	OB I	MATI	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit		Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	-110.		4 / 2 · · · · ·			· ·			
2x2 UTF or Inc Surf	0	Ea	10.01	ō	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 6	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' Fi Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	Ō	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	Ö	Ea	22.00	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	o	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation		-						·	
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	ō	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	ō	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	21	Ea	1.83	38	0.00	0	38	MEp13	N/A
Remove Ballasts	12	Ea	11.00	132	0.00	0	132	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps]						
F32T8/TL70/35K	9	Ea	1.83	16	2.02	18	34	MEp13	DGSC
F96T8/TL70/35K	12	Ea	1.83	22	6.40	77	99	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	0	Ea	11.00	0	22.50	0	0		OS/SYL
3-F32T8 Lamps	3	Ea	11.00	33	23.50	71	104		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0		OS/SYL
2-F96T8 Lamps	6	Ea	11.00	66	35.00	210	276	MEp211	OS/SYL
Install Reflectors		Ţ							
4' Strp or Indst	0	Ea	6.88	0	- d	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
Total Bare Costs				307		376	\$683		
	*								

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 33-060 RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUANT	ΠΤΥ	LAE	OR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				307		376	\$683		
Total Bare Costs							_		
Economy of Scale			-20.0%	-61		0	(61)	MEp360	
Subtotal				246		376	622		
City Cost Index			-30.1%	-74	-3.5%	-13	(87)	MEp388	MEp388
Subtotal				172		. 363	535		
OH & Profit Markups			50.0%	86	10.0%	36	122	MEpIBC	МЕр3
Subtotal				258		399	657		
Sales Taxes				0	6.5%	26	26		PBA
Subtotal				258		425	683		
Contingency			10.0%	26	10.0%	43	69	МЕр4	MEp4
Subtotal				284		468	752		
Design Fee	6.0%			45		0	45	PBA	
SIOH	6.0%			45		0	45	PBA	
Total Const. Cost				374		468	\$842		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

33-530

RS&H No.: 694-1331-001 23-Mar-95

Date:

Estimator: W.T:Todd

Filename: EST-SUMP.WQ1

	QUAN	TITV	LAE	00	ΜΑΤΙ	ERIAL	TOTAL	sou	RCE
ITEM DECODIDEION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION Fixture Removal	140.	Olin	φ/ O τ πι	1 Otal	φ, σ, π.	10.0.			
	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf 2x4 FI Troffer	0	Ea	14.66	- 6	0.00	0	Ö	MEp17	N/A
	0	Ea	9.79	0	0.00	0	ō	MEp18	N/A
4' FI Surf Strip			13.34	- 6	0.00	0	Ö	MEp17	N/A
4' FI Surf Wrap	0	Ea		0	0.00	0	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	12.57 16.31	- 6	0.00	0	0	MEp18	N/A
8' Fi Pend Indust		Ea		0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00 22.00	1826	0.00	0	1,826	MEp18	N/A
Low Bay Fixture	83	Ea			0.00	- 6	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0		0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	- 0	MBp237	MBp237
Inst. Ceiling Tile	. 0	SF	0.36	0	0.72			MBD201	MDP207
Fixture Installation					70.05		0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	3887	6,706	MEp208	GRp917
4', 2 Lamp Indust.	73	Ea	38.61	2819	53.24		0,700	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99		0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0			NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0_	MEp208	GRp917
Fixture Upgrades		<u> </u>						115 015	
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	00	MEp215	NLp10
Remove Fluor Lamps	0	Ea	1.83	0	0.00	0	0	MEp13	N/A_
Remove Ballasts	0	Ea	11.00	0	0.00	0	0	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	0	Ea	1.83	0	2.02	0	0	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts		1							
2-F32T8 Lamps	0	Ea	11.00	0	22.50	0	0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1								
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	Ö	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0		11.46	0	25.35	0	0	(4)	NLp18
24 1101161	+	 -	1					† · · · · · ·	1
Total Bare Costs	 	+	 	4645		3887	\$8,532	<u> </u>	1
TOTAL DATA COSTS			1	1070		1 333.	70,002	L	1,

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

33-530

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

QUAN No.	Unit	LAE \$/Unit	Total	\$/Unit		COOT		
				Φ/Oπι	Total	COST	Labor	Material
	-		4045		3887	\$8,532		
1 1			4645		3007	\$0,002		
		-20.0%	-929		0	(929)	МЕр360	
			3716		3887	7,603		
		-30.1%	-1119	-3.5%	-136	(1,255)	MEp388	MEp388
			2597		3751	6,348		
		50.0%	1299	10.0%	375	1,674	MEpIBC	МЕрЗ
			3896		4126	8,022		
			0	6.5%	269	269		PBA
			2000		4205	9 201		
-		ļ	3030		4090	0,201		
		10.0%	390	10.0%	440	830	MEp4	MEp4
			4286		4835	9,121		
6.0%			547		0	547	PBA	
6.0%			547		0	547	PBA	
			5380		4835	\$10,215		
<u> </u>								
	6.0%		50.0%	3716 -30.1% -1119 -2597 50.0% 1299 -3896 0 -3896 10.0% 390 -4286 6.0% 547 6.0% 547	3716	3716 3887 -30.1% -1119 -3.5% -136 -2597 3751 50.0% 1299 10.0% 375 -3896 4126 0 6.5% 269 -3896 4395 10.0% 390 10.0% 440 -4286 4835 6.0% 547 0	3716 3887 7,603 -30.1% -1119 -3.5% -136 (1,255) 2597 3751 6,348 50.0% 1299 10.0% 375 1,674	3716 3887 7,603 -30.1% -1119 -3.5% -136 (1,255) MEp388 2597 3751 6,348 50.0% 1299 10.0% 375 1,674 MEpIBC 3896 4126 8,022 0 6.5% 269 269 3896 4395 8,291 10.0% 390 10.0% 440 830 MEp4 4286 4835 9,121 6.0% 547 0 547 PBA 6.0% 547 0 547 PBA

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

34-110

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator:

EST-SUMP.WQ1 Filename:

	QUAN	TITV	LAE	OB I	MATE	FRIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION		Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Onk	Φ/ OT III	Total	Φ/ Ο/ ΙΙΙ	10.01			
Fixture Removal		Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or inc Surf	0	Ea	14.66	0	0.00	- 6	0	MEp17	N/A
2x4 Fl Troffer		Ea	9.79	- 6	0.00	0	0	MEp18	N/A
4' Fl Surf Strip	0		13.34	0	0.00	0	ő	MEp17	N/A
4' FI Surf Wrap	0	Ea	12.57	0	0.00	0	ől	MEp18	N/A
4' Fi Pend Indust	0	Ea Ea	16.31	- 6	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0			- 6	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00 22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea		- 0	0.00	- 6	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63		0.37		- 0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72			WDD207	1010 5207
Fixture Installation					70.05			MEROOD	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0			GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208 MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0			GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0,	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	1218	Ea	1.83	2229	0.00	0	2,229	MEp13	N/A
Remove Ballasts	609	Ea	11.00	6699	0.00	0	6,699	MEp211	N/A
Remove Lampholders	40	Ea	2.29	92	0.00	0	92	(1)	N/A
Install T8 Lamps									<u> </u>
F32T8/TL70/35K	1158	Ea	1.83	2119	2.02	2339	4,458	MEp13	DGSC
F96T8/TL70/35K	20	Ea	1.83	37	6.40	128	165	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	 	 -							
2-F32T8 Lamps	579	Ea	11.00	6369	22.50	13028	19,397	MEp211	OS/SYL
3-F32T8 Lamps	0.0		11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0		11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	10	Ea	11.00	110	35.00	350	460	MEp211	OS/SYL
Install Reflectors	+	 -==		 					
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	1 0	Ea	9.17	<u> </u>		0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
ZX4 HOHel	+ "	1 La	11.70						1
Total Bare Costs	 	+-	 	17655	 	15845	\$33,500		
Total bare Costs	J	1		1 17000	L	,	+30,000	·	

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

34-110

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				17655		15845	\$33,500		
Economy of Scale			-20.0%	-3531		0	(3,531)	МЕр360	
Subtotal				14124		15845	29,969		
							(4.000)	NE-200	MC-200
City Cost Index			-30.1%	-4251	-3.5%	-555	(4,806)	MEp388	MEp388
	_					45000	05 162		
Subtotal	 			9873		15290	25,163		
	- 		50.00	4007	10.0%	1529	6,466	MEpIBC	МЕр3
OH & Profit Markups	- 		50.0%	4937	10.0%	1529	0,400	MEDIDO	IVILPO
0.14.4.1				14810		16819	31,629		
Subtotal	 		-	14010		10010	01,023		
Sales Taxes	-			0	6.5%	1095	1,095		PBA
Sales Taxes		<u> </u>	 		0.070				
Subtotal	+	 		14810		17914	32,724		
Gubiotai				.,,,,,			, , , , , , , , , , , , , , , , , , , ,		
Contingency			10.0%	1481	10.0%	1791	3,272	MEp4	MEp4
Garting gricy									
Subtotal				16291		19705	35,996		
Design Fee	6.0%			2160		0	2,160	PBA	
SIOH	6.0%			2160		0	2,160	PBA	
							0.10.01.0		
Total Const. Cost				20611		19705	\$40,316		
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			<u> </u>	<u> </u>	<u> </u>	I	<u> </u>	1	<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

34-120

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV	ΙΔΕ	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION Fixture Removal	140.	OI III	Ψ/ΟΤΤΙΣ	10141	Ψ/ Ο τ τις	- 10101			
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
	4	Ea	14.66	59	0.00	0	59	MEp17	N/A
2x4 FI Troffer	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fi Surf Strip	-0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Surf Wrap	- 6	Ea	12.57	0	0.00	0	- 0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	- 0	Ea	11.00	0	0.00	- 6	0	MEp18	N/A
8' FI Surf Strip	32	Ea	22.00	704	0.00	0	704	MEp18	N/A
Low Bay Fixture			29.34	704	0.00	. 0	0	MEp18	N/A
High Bay Fixture	0	Ea		0	0.00	· 0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63		0.37	23	35	MBp237	MBp237
Inst. Ceiling Tile	32	SF	0.36	12	0.72	23		Mopeon	WIDDED
Fixture Installation			07.50		70.05	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34				GRp917
4', 2 Lamp Indust.	21	Ea	38.61	811	53.24	1118	1,929	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	. 0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	111	Ea	1.83	203	0.00	0	203	MEp13	N/A
Remove Ballasts	73	Ea	11.00	803	0.00	0	803	MEp211	N/A
Remove Lampholders	34	Ea	2.29	78	0.00	0	78	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	94	Ea	1.83	172	2.02	190	362	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	O	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts		 -	1	1				1	
2-F32T8 Lamps	24	Ea	11.00	264	22.50	540	804	MEp211	OS/SYL
3-F32T8 Lamps	16	Ea	11.00	176	23.50	376	552		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0		0	0		OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	ō	Ö	MEp211	OS/SYL
Install Reflectors	 	 	†	 	<u> </u>				
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17		15.90	0	0	(3)	NLp18
2x4 Troffer	14	Ea	11.46	160	25.35	355	515	(4)	NLp18
24 1101161	17	<u>-a</u>	11.40		25.00			 ''	
Total Bara Costa	 	 	 	3442		2602	\$6,044	 	†
Total Bare Costs	1	1	L	1 3772	<u> </u>	1 2002	40,044	<u> </u>	1

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study

34-120

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	TQUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	sou	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
,,									
Total Bare Costs				3442		2602	\$6,044		
Total Ballo Gotto	1								
Economy of Scale			-20.0%	-688		0	(688)	MEp360	
Loononly of Coulo									
Subtotal				2754		2602	5,356		
City Cost Index			-30.1%	-829	-3.5%	-91	(920)	MEp388	MEp388
Subtotal				1925		2511	4,436		
OH & Profit Markups			50.0%	963	10.0%	251	1,214	MEpIBC	МЕр3
Subtotal				2888		2762	5,650		
000,0									
Sales Taxes				0	6.5%	180	180		PBA
Subtotal				2888		2942	5,830		
Contingency			10.0%	289	10.0%	294	583	MEp4	MEp4
Subtotal				3177		3236	6,413		
	1.								
Design Fee	6.0%			385		0	385	PBA	
SIOH	6.0%			385		0	385	PBA	
Total Const. Cost				3947		3236	\$7,183		
	T								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis: Building:

34-140

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV	LAB	08	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	140.	Office	Ψ/ΟΤΙΙ	1014	Ψ, σ, π,				
Fixture Removal	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	14.66	- 6	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	9.79	- 6	0.00	0	ō	MEp18	N/A
4' Fl Surf Strip			13.34	13	0.00	0	13	MEp17	N/A
4' FI Surf Wrap	1	Ea	12.57	13	0.00	0	13	MEp18	N/A
4' FI Pend Indust	1	Ea		- 13	0.00	- 0	- 0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00		0.00	0	220	MEp18	N/A
Low Bay Fixture	10	Ea	22.00	220		0	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	- 0	1	MBp229	MBp229
Repair Plas Ceiling	1	SF	0.63	1	0.37		0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	- 0	MBD231	10100237
Fixture Installation								NE-000	NI -10
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	2	Ea	38.61	77	53.24	106	183	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208_	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	9	Ea	50.00	450	84.44	760	1,210	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	4	Ea	1.38	6	0.00	0	6	MEp215	N/A
Install Integral CF	 								
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	Ö	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	4	Ea	1.38	6	29.95	120	126	MEp215	NLp10
Remove Fluor Lamps	20	Ea	1.83	37	0.00	0	37	MEp13	N/A
Remove Ballasts	10	Ea	11.00	110	0.00	0	110	MEp211	N/A
	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Remove Lampholders	- 0	Ca	2.23		0.00				,
Install T8 Lamps	10	Ea	1.83	29	2.02	32	61	MEp13	DGSC
F32T8/TL70/35K	16	Ea	1.83	7	6.40	26	33	MEp13	OS/SYL
F96T8/TL70/35K	4	Ea		0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	0	Ea	1.83	"	3.34			MEDIO	- 5000
Install T8 Ballasts	 	 	11.00	90	20.50	100	268	MEp211	OS/SYL
2-F32T8 Lamps	8	Ea	11.00	88	22.50	180	200	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	92	MEp211	OS/SYL
2-F96T8 Lamps	2	Ea	11.00	22	35.00	70	92	MEp211	U3/31L
Install Reflectors			 					(0)	AU = 4.0
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
Total Bare Costs		1		1079	<u> </u>	1294	\$2,373		.1

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

34-140

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
1,000									
Total Bare Costs				1079		1294	\$2,373		
Economy of Scale			-20.0%	-216		0	(216)	MEp360	
						4004	0.457		
Subtotal				863		1294	2,157		
O': O - N - d - d	-		-30.1%	-260	-3.5%	-45	(305)	MEp388	MEp388
City Cost Index			~30.1%	-200	70.576	70	(000)		
Subtotal				603		1249	1,852		
Subiolai	+								
OH & Profit Markups	-		50.0%	302	10.0%	125	427	MEpIBC	МЕр3
Subtotal				905		1374	2,279		
Sales Taxes				0	6.5%	89	89		PBA
							6.000		
Subtotal		ļ		905		1463	2,368		
			10.00/	91	10.0%	146	237	MEp4	MEp4
Contingency			10.0%	31	10.0%	140	207	WILDY	
Subtotal				996	<u> </u>	1609	2,605		
Subtotal			1	000		1000			
Design Fee	6.0%	 		156		0	156	PBA	
SIOH	6.0%	 		156		0	156	PBA	
Total Const. Cost				1308		1609	\$2,917		
				<u> </u>	ļ				
		ļ	ļ			<u> </u>			
				 					
		-				ļ			
		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	L	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price. MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA

(1)

Information provided by Pine Bluff Arsenal staff. Assume lampholder removal takes 5 minutes each.

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Project: Location: Basis:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study 34-910

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 Estimator: W.T.Todd

Filename: EST-SUMP.WQ1

	QUAN	TITY	LAE	OR I	MAT	ERIAL	TOTAL .	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ, σ		- V/				1
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	6	Ea	14.66	88	0.00	0	88	MEp17	N/A
4' Fl Surf Strip	13	Ea	9.79	127	0.00	0	127	MEp18	N/A
	36	Ea	13.34	480	0.00	0	480	MEp17	N/A
4' Fl Surf Wrap 4' Fl Pend Indust	13	Ea	12.57	163	0.00	0	163	MEp18	N/A
	7	Ea	16.31	114	0.00	0	114	MEp18	N/A
8' Fl Pend Indust	3	Ea	11.00	33	0.00	0	33	MEp18	N/A
8' Fl Surf Strip	2	Ea	22.00	44	0.00	0	44	MEp18	N/A
Low Bay Fixture	8	Ea	29.34	235	0.00	0	235	MEp18	N/A
High Bay Fixture	52	SF	0.63	33	0.37	19	52	MBp229	MBp229
Repair Plas Ceiling	48	SF	0.36	17	0.72	35	52	MBp237	MBp237
Inst. Ceiling Tile	40	<u> ٥٢</u>	0.30		0.72			1110 525.	
Fixture Installation	-		27.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea		765	186.27	1490	2,255	MEp208	GRp923
High Bay, 1-100W MH	8	Ea	95.65	765	52.34	105	179	MEp208	GRp918
4', 1 Lamp Indust.	2	Ea	36.99 38.61	1892	53.24	2609	4,501	MEp208	GRp917
4', 2 Lamp Indust.	49	Ea		39	58.24	58	97	MEp208	GRp918
4', 2 Lmp Ind w/Refl	1	Ea	38.61	0	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	47.99	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50		76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50		56.54	339	528	MEp208	NLp15
4', 2 Lamp WA	6	Ea	31.43	189		0	0	MEp200	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04			MEp210	NLp15
4', 2 Lamp WA w/Refl	14	Ea	31.43	440	75.54	1058	1,498	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0		
8', 2 Lamp Indust.	1	Ea	50.00	50	84.44	84	134	MEp208	GRp917
Fixture Upgrades			1.00		0.00			ME-015	N/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	IN/A
Install Integral CF					10.05			N45-015	NI =0
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bai	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	1427	Ea	1.83	2611	0.00	0	2,611	MEp13	N/A
Remove Ballasts	715	Ea	11.00	7865	0.00	0	7,865	MEp211	N/A
Remove Lampholders	1162	Ea	2.29	2661	0.00	0	2,661	(1)	N/A
Install T8 Lamps	<u> </u>								
F32T8/TL70/35K	386	Ea	1.83	706	2.02	780	1,486	MEp13	DGSC
F96T8/TL70/35K	460	Ea	1.83	842	6.40	2944	3,786	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	170	Ea	11.00	1870	22.50	3825	5,695	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	12	Ea	11.00	132	24.50	294	426	MEp211	OS/SYL
2-F96T8 Lamps	230	Ea	11.00	2530	35.00	8050	10,580	MEp211	OS/SYL
Install Reflectors		1							
4' Strp or Indst	8	Ea	6.88	55	7.95	64	119	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
		1							
Total Bare Costs	 	 	1	24055		21754	\$45,809		

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

34-910

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

me: EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				24055		21754	\$45,809		
Economy of Scale			-20.0%	-4 811		0	(4,811)	MEp360	
Subtotal				19244		21754	40,998		
							(0.550)	145-000	ME-200
City Cost Index			-30.1%	-5792	-3.5%	-761	(6,553)	MEp388	MEp388
							04.445		
Subtotal				13452		20993	34,445		
			50.00	6700	10.0%	2099	8,825	MEpIBC	MEp3
OH & Profit Markups			50.0%	6726	10.0%	2099	0,023	MEDIBO	IVILPO
	_			00170		23092	43,270		
Subtotal				20178		23092	43,270		
	_			0	6.5%	1503	1,503		PBA
Sales Taxes	- 			0	0.578	1000	1,000		
Subtotal				20178		24595	44,773		
Subtotal			 	20170		2.000			
Contingency		 	10.0%	2018	10.0%	2460	4,478	MEp4	MEp4
Contingency			10.07						
Subtotal	-			22196		27055	49,251		
Oddictal									
Design Fee	6.0%			2955		0	2,955	PBA	
SIOH	6.0%			2955		0	2,955	PBA	
Total Const. Cost				28106		27055	\$55,161		
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LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study 34-970

Basis:

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV	LAB	OR I	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	-110.	01	φ, σ	1,0,0	-			i.	
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fi Troffer	8	Ea	14.66	117	0.00	0	117	MEp17	N/A
	2	Ea	9.79	20	0.00	0	20	MEp18	N/A
4' Fl Surf Strip	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Surf Wrap	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	- 6	0.00	0	0	MEp18	N/A
8' FI Pend Indust	- 6	Ea	11.00	- 6	0.00	0	0	MEp18	N/A
8' FI Surf Strip	0	Ea	22.00	0	0.00	0	Ö	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	2	SF	0.63	1	0.37	1	2	MBp229	MBp229
Repair Plas Ceiling		SF	0.65	23	0.72	46	69	MBp237	MBp237
Inst. Ceiling Tile	64	<u>5r</u>	0.36	20	0.72			W.B.P.EO.	W.5,525.
Fixture Installation			07.50		79.95	- 0	- 0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	186.27	- 6	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	44.18	0	0	MEp208 MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0		0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	. 0	47.99	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99			MEp207 MEp208	NLp15
4', 2 Lamp WA	2	Ea	31.43	63	56.54	113	176		MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15 NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades								145-045	NI/A
Remove Incand Lamps	2	Ea	1.38	3	0.00	0	3	MEp215	N/A
Install Integral CF								145 045	NII - 0
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bai	2	Ea	1.38	3	19.95	40	43	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	96	Ea	1.83	176	0.00	0	176	MEp13	N/A
Remove Ballasts	48	Ea	11.00	528	0.00	0	528	MEp211	N/A
Remove Lampholders	40	Ea	2.29	92	0.00	0	92	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	56	Ea	1.83	102	2.02	113	215	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts			T						
2-F32T8 Lamps	28	Ea	11.00	308	22.50	630	938	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	ō	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1	1							
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
24 1101161	+		1 75					 	1
Total Bare Costs		+	+	1436	 	943	\$2,379	 	
TOTAL DATE COSTS				1-00		<u> </u>	72,0.0	1	

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

34-970

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
		,					20.070		
Total Bare Costs				1436		943	\$2,379		-
E			-20.0%	-287		0	(287)	MEp360	
Economy of Scale	-		-20.076	-201			(2017)		
Subtotal	+			1149		943	2,092		
			00.40/	240	2.50/	-33	(379)	MEp388	MEp388
City Cost Index	-		-30.1%	-346	-3.5%	-23	(373)	MEDOOO	WILDOOD
Subtotal				803		910	1,713		
OH & Profit Markups	-		50.0%	402	10.0%	91	493	MEpiBC	MEp3
On & Floit Warkups	+		00.070						
Subtotal				1205		1001	2,206		
					2.70				PBA
Sales Taxes				0	6.5%	65	65		PDA
Subtotal	_			1205		1066	2,271		
								145 4	145-4
Contingency			10.0%	121	10.0%	107	228	MEp4	MEp4
Subtotal				1326		1173	2,499		
Design Fee	6.0%			150		0	150	PBA	
SIOH	6.0%	-		150		0	150	PBA	

Total Const. Cost				1626		1173	\$2,799		
	-		-						
	-								
		+		<u> </u>	 				

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project:

Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 44-100

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

	QUAN	TITV I	LAE	OR I	MATE	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.	Ottil	Ψ/ Ο		7, 51				
2x2 UTF or Inc Surf	25	Ea	10.01	250	0.00	0	250	MEp17	N/A
2x4 Fi Troffer	16	Ea	14.66	235	0.00	0	235	MEp17	N/A
	19	Ea	9.79	186	0.00	0	186	MEp18	N/A
4' FI Surf Strip	2	Ea	13.34	27	0.00	0	27	MEp17	N/A
4' FI Surf Wrap		Ea	12.57	0	0.00	0	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	0			0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00 22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture			29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea	0.63	29	0.37	17	46	MBp229	MBp229
Repair Plas Ceiling	46	SF		46	0.72	92	138	MBp237	MBp237
Inst. Ceiling Tile	128	SF	0.36	40	0.72	- 32	100	Midpedi	Mopzor
Fixture Installation			07.50		70.05	160	215	MEp209	NLp12
11" Srf, 2-26W CFL	2	Ea	27.50	55 0	79.95 186.27	160	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65			0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34 53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0		0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp206	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99				NLp15
4', 2 Lamp WA	11	Ea	31.43	346	56.54	622	968	MEp208	
4', 2 Lamp WA Wet	8	Ea	68.75	550	84.04	672	1,222	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15 GRp917
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	- 0	U	MEp208	Ghpair
Fixture Upgrades					0.00		- 44	NE-015	N/A
Remove Incand Lamps	8	Ea	1.38	11	0.00	0	11	MEp215	IN/A
Install Integral CF	<u> </u>							15 045	NI 6
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bai	8	Ea	1.38	11	19.95	160	171	MEp215	NLp9
23W w/ Eiec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	631	Ea	1.83	1155	0.00	0	1,155	MEp13	N/A
Remove Ballasts	344	Ea	11.00	3784	0.00	0	3,784	MEp211	N/A
Remove Lampholders	390	Ea	2.29	893	0.00	0	893	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	430	Ea	1.83	787	2.02	869	1,656	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	6	Ea	1.83	11	9.34	56	67	MEp13	DGSC
Install T8 Ballasts							······································		
2-F32T8 Lamps	218	Ea	11.00	2398	22.50	4905	7,303	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors									
4' Strp or Indst		1 6-	6.88	0	7.95	0	0	(2)	NLp18
	0	Ea	0.00						
4' Wrap or Surf	0	Ea	9.17		15.90	0	0	(3)	NLp18
							0 184		
4' Wrap or Surf 2x4 Troffer	0	Ea	9.17	0	15.90	0		(3)	NLp18

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study

44-100

RS&H No.:

694-1331-001 23-Mar-95 W.T.Todd

Date: Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY I	LAE	3OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
							010.514		
Total Bare Costs	 			10831		7680	\$18,511		
			-20.0%	-2166		0	(2,166)	MEp360	
Economy of Scale			-20.0%	-2100			(2,100)		
Subtotal				8665		7680	16,345		
City Cost Index	-		-30.1%	-2608	-3.5%	-269	(2,877)	MEp388	MEp388
Oity Cost Moox	1								
Subtotal :				6057		7411	13,468		
OH & Profit Markups			50.0%	3029	10.0%	741	3,770	MEpIBC	МЕрЗ
O, r G , r one manage									
Subtotal				9086		8152	17,238		
					0.50/	504	531		PBA
Sales Taxes				0	6.5%	531	331		100
Subtotal				9086		8683	17,769		
Contingency			10.0%	909	10.0%	868	1,777	MEp4	MEp4
Contingency									
Subtotal				9995		9551	19,546		
Design Fee	6.0%			1173		0	1,173	РВА	
SIOH	6.0%			1173		0	1,173	PBA	
			ļ			0.554	004.000		
Total Const. Cost				12341		9551	\$21,892		
				<u> </u>	<u> </u>	<u> </u>	<u></u>	L	<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project:

Location: Basis:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study 51-420

Building:

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITY	LAB	OR I	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	1,10.								
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fi Troffer	13	Ea	14.66	191	0.00	0	191	MEp17	N/A
	- 0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	3	Ea	13.34	40	0.00	0	40	MEp17	N/A
4' Fl Surf Wrap	- 6	Ea	12.57	- 70	0.00	0	0	MEp18	N/A
4' FI Pend Indust	- 6	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	Ö	MEp18	N/A
8' Fl Surf Strip	- 6	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture			29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture	0	Ea		2	0.37	- 1	3	MBp229	MBp229
Repair Plas Ceiling	3	SF	0.63	37	0.72	75	112	MBp237	MBp237
Inst. Ceiling Tile	104	SF	0.36	3/	0.72	- /3	112	Williams	1410,5207
Fixture Installation			07.70		70.05	- 0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95		0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27		0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208 MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	- 0	0	MEp208 MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18		0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0			MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15 NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bai	0	Ea	1.38	0	19.95	0	, 0	MEp215	NLp9
23W w/ Elec Bal	. 0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	452	Ea	1.83	827	0.00	0	827	MEp13	N/A
Remove Ballasts	227	Ea	11.00	2497	0.00	0	2,497	MEp211	N/A
Remove Lampholders	432	Ea	2.29	989	0.00	0	989	(1)	N/A
Instail T8 Lamps									
F32T8/TL70/35K	236	Ea	1.83	432	2.02	477	909	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	 	├ ─	1	 					
2-F32T8 Lamps	118	Ea	11.00	1298	22.50	2655	3,953	MEp211	OS/SYL
3-F32T8 Lamps	110	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	ō	0	MEp211	OS/SYL
2-F96T8 Lamps	1 0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
	+	La	11.00	 	33.55	<u> </u>	_	 	T
Install Reflectors	0	Ea	6.88	- 0	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	9.17	0	15.90	0	Ö	(3)	NLp18
4' Wrap or Surf				0	25.35	0	0	(4)	NLp18
2x4 Troffer	0	Ea	11.46	1	20.00	· · · · ·		1 17/	1,125.5
	 	 	 	6210	 	2200	\$0.501		-
Total Bare Costs		<u> </u>	<u> </u>	6313	1	3208	\$9,521	1	L

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

51-420

RS&H No.:

694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				6313		3208	\$9,521		
E - Coole			-20.0%	-1263		0	(1,263)	MEp360	
Economy of Scale	-		-20.076	-1200					
Subtotal				5050		3208	8,258		
City Cost Index			-30.1%	-1520	-3.5%	-112	(1,632)	MEp388	MEp388
Oity Cost index	-								
Subtotal				3530		3096	6,626		
OH & Profit Markups			50.0%	1765	10.0%	310	2,075	MEpiBC	МЕрЗ
Subtotal				5295		3406	8,701		
Sales Taxes				0	6.5%	222	222		PBA
Subtotal	-			5295		3628	8,923		
Contingency			10.0%	530	10.0%	363	893	MEp4	MEp4
Contingency		_	70.070						
Subtotal				5825		3991	9,816		
Design Fee	6.0%			589	\	0	589	PBA	
SIOH	6.0%			589		0	589	PBA	
Total Const. Cost				7003		3991	\$10,994		
		ļ							
			 						
	+	 	 						

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenai staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

Project:

Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis: Building:

51-430

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITV I	LAB		ΜΔΤ	ERIAL	TOTAL	SOU	RCE
TELL DECORPTION			\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Unit	\$/Onit	Total	\$/OTTL	1 Otal			
Fixture Removal			10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	10.01 14.66	59	0.00	- 6	59	MEp17	N/A
2x4 Fl Troffer	4	Ea		0	0.00	0	- 0	MEp18	N/A
4' FI Surf Strip	0	Ea	9.79		0.00	- 6	0	MEp17	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	- 6	0	MEp18	N/A
4' FI Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	0	Ea	16.31			0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	- 6	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00		0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	· MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63	0	0.37	0		MBp237	MBp237
Inst. Ceiling Tile	32	SF	0.36	12	0.72	23	35	MBD237	MBD237
Fixture Installation								145 000	NU 40
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210_
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	Ó	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	4	Ea	1.38	6	0.00	0	6	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bai	4	Ea	1.38	6	19.95	80	86	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	82	Ea	1.83	150	0.00	0	150	MEp13	N/A
Remove Ballasts	41	Ea	11.00	451	0.00	0	451	MEp211	N/A
Remove Lampholders	32	Ea	2.29	73	0.00	0	73	(1)	N/A
Install T8 Lamps	 			<u> </u>					
F32T8/TL70/35K	34	Ea	1.83	62	2.02	69	131	MEp13	DGSC
F96T8/TL70/35K	16	Ea	1.83	29	6.40	102	131	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0		DGSC
Install T8 Ballasts	 	La	1.00	 				1	
	17	Ea	11.00	187	22.50	383	570	MEp211	OS/SYL
2-F32T8 Lamps	0	Ea	11.00	107	23.50	000	0.0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	8	Ea	11.00	88	35.00	280	368	MEp211	OS/SYL
2-F96T8 Lamps		ca	11.00	00	00.00	200		1	1 30,0.2
Install Reflectors	+	 	6.00		7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88	0			0	(3)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90		0		NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	<u>U</u>	(4)	IACD 10
		ļ	<u> </u>	4400	ļ	007	60.000	 	
Total Bare Costs		<u> </u>	<u> </u>	1123	<u> </u>	937	\$2,060	1	1

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

51-430

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				1123		937	\$2,060		
F			-20.0%	-225		0	(225)	MEp360	
Economy of Scale			-20.0%	-225					
Subtotal				898		937	1,835		
City Cost Index			-30.1%	-270	-3.5%	-33	(303)	MEp388	MEp388
						004	1,532		
Subtotal	┤──∸			628		904	1,532		
OH & Profit Markups			50.0%	314	10.0%	90	404	MEpiBC	MEp3
				0.40			4 036		
Subtotal				942		994	1,936		
Sales Taxes				0	6.5%	65	65		PBA
				942		1059	2,001		
Subtotal	-			942	<u> </u>	1009	2,001		<u> </u>
Contingency			10.0%	94	10.0%	106	200	MEp4	MEp4
Subtotal				1036		1165	2,201		
Design Fee	6.0%			132		0	132	PBA	1
SIOH	6.0%			132		0	132	PBA	
						44.05	00.405		
Total Const. Cost				1300		1165	\$2,465		
		-	· ·						
		<u> </u>	<u> </u>	l	<u> </u>	<u> </u>			1

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC

Defense General Supply Center, February 1994 Catalog. GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study 53-160

Building:

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

5	QUAN	TITV	ΙΔΕ	BOR	MATE	FRIAL	TOTAL	SOUR	RCE !
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	140.	Offit	Ψ/Οιικ	10.6.	Ψ/ Ο				
Fixture Removal	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	14.66	- 6	0.00	0	0	MEp17	N/A
2x4 FI Troffer	0	Ea	9.79	- 6	0.00	0	0	MEp18	N/A
4' FI Surf Strip				0	0.00	0	ō	MEp17	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	- 6	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	12.57	- 0	0.00	- 0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	- 6	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00			6	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00		- 0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.63	0	0.37	0		MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBD237	MBP237
Fixture Installation								145-000	NI =10
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	5	Ea	1.38	7	0.00	0	7	MEp215	N/A
Install Integral CF	1								
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	5	Ea	1.38	7	19.95	100	107	MEp215	NLp9
28W w/ Mag Bal	1 0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	178	Ea	1.83	326	0.00	0	326	MEp13	N/A
Remove Ballasts	89	Ea	11.00	979	0.00	0	979	MEp211	N/A
	68	Ea	2.29	156	0.00	0	156	(1)	N/A
Remove Lampholders	1 00	<u>-a</u>	2.23	130	1 0.00	<u>-</u>		· · · · ·	
Instail T8 Lamps	110	Ea	1.83	201	2.02	222	423	MEp13	DGSC
F32T8/TL70/35K	110	Ea	1.83		6.40	0	0	MEp13	OS/SYL
F96T8/TL70/35K	0	Ea		0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	0	Ea	1.83	"	3.34	 		1.0.0	
Install T8 Ballasts		 	11.00	COF	22.50	1238	1,843	MEp211	OS/SYL
2-F32T8 Lamps	55	Ea	11.00	605		1	1,043		OS/SYL
3-F32T8 Lamps	0	Ea	11.00		23.50	0			OS/SYL
4-F32T8 Lamps	0	Ea	11.00			0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	USISTL
Install Reflectors				 	 	ļ		(0)	NU = 40
4' Strp or Indst	0	Ea	6.88		7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17		15.90	0	0	(3)	NLp18
2x4 Troffer	4	Ea	11.46	46	25.35	101	147	(4)	NLp18
					·				ļ
Total Bare Costs				2327		1661	\$3,988		<u> </u>

Project:

Building:

Lighting Upgrade

Location: Pine Bluff Arsenal, AR Pre-Design Study Basis:

53-160

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2327		1661	\$3,988		
Economy of Scale			-20.0%	-465		0	(465)	MEp360	
Subtotal				1862		1661	3,523		
City Cost Index			-30.1%	-560	-3.5%	-58	(618)	MEp388	МЕр388
Subtotal				1302		1603	2,905		
OH & Profit Markups			50.0%	651	10.0%	160	811	MEpIBC	МЕр3
Subtotal				1953		1763	3,716		
Sales Taxes				0	6.5%	115	115		PBA
Subtotal				1953		1878	3,831		
Contingency			10.0%	195	10.0%	188	383	МЕр4	MEp4
Subtotal				2148		2066	4,214		
Design Fee	6.0%			253		0	253	PBA	
SIOH	6.0%		1	253		0	253	PBA	
Total Const. Cost				2654		2066	\$4,720		
	-								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis:

Building:

60-020

Date:

RS&H No.: 694-1331-001 23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN	TITY	LAE	IOR	MATI	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ/ Ο	10.0.	4/ 4/11				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	- 5	Ea	14.66	ō	0.00	0	0	MEp17	N/A
4' FI Surf Strip	25	Ea	9.79	245	0.00	0	245	MEp18	N/A
	1	Ea	13.34	13	0.00	0	13	MEp17	N/A
4' FI Surf Wrap	- 0	Ea	12.57	- 10	0.00	0	0	MEp18	N/A
4' Fi Pend Indust	0	Ea	16.31	0	0.00	0	ō	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' FI Surf Strip	0	Ea	22.00	- 6	0.00	0	Ō	MEp18	N/A
Low Bay Fixture	- 6	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture		SF	0.63	16	0.37	10	26	MBp229	MBp229
Repair Plas Ceiling	26			0	0.72	- 0	0	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36		0.72			WILDEOF	Mopeon
Fixture Installation			07.50		70.05		0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27		0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	- 0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99				MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207 MEp208	NLp15
4', 2 Lamp WA	11	Ea	31.43	346	56.54	622	968		NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	11	Ea	31.43	346	75.54	831	1,177	MEp208	NLp15
4', 4 Lamp WA	2	Ea	41.50	83	71.58	143	226	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades								145 045	A1/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
install Integral CF									
15W w/ Elec Bal	. 0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	. 0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	106	Ea	1.83	194	0.00	0	194	MEp13	N/A
Remove Ballasts	53	Ea	11.00	583	0.00	0	583	MEp211	N/A
Remove Lampholders	42	Ea	2.29	96	0.00	0	96	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	66	Ea	1.83	121	2.02	133	254_	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	30	Ea	11.00	330	22.50	675	1,005	MEp211	OS/SYL
3-F32T8 Lamps	2	Ea	11.00	22	23.50	47	69	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	Ō	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	1								
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	4	Ea	9.17		15.90	64	101	(3)	NLp18
2x4 Troffer	Ö	Ea	11.46	0	25.35	0	0	(4)	NLp18
2000	† – –	 	 					· · · ·	1
Total Bare Costs	 	 	 	2432	 	2525	\$4,957		
Total Date Costs	1		1		1		<u> </u>	J	

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

60-020

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator:

W.T.Todd

Filename: EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2432		2525	\$4,957		
Economy of Scale			-20.0%	-486		0	(486)	MEp360	
Subtotal				1946		2525	4,471		
							(074)	145-000	ME-200
City Cost Index			-30.1%	-586	-3.5%	-88	(674)	MEp388	MEp388
						0407	0.707		
Subtotal				1360		2437	3,797	·	
			50.00	000	10.00	044	924	MEpIBC	MEp3
OH & Profit Markups			50.0%	680	10.0%	244	924	MEDIBO	MEDO
	_			2040		2681	4,721		
Subtotal				2040	<u> </u>	2001	4,121	· · · · · · · · · · · · · · · · · · ·	
O-las Taura				0	6.5%	175	175		PBA
Sales Taxes					0.578	170	170		
Subtotal				2040		2856	4,896		
Subtotal				20.0					
Contingency			10.0%	204	10.0%	286	490	MEp4	MEp4
Contangonoy	+								
Subtotal				2244		3142	5,386		
Design Fee	6.0%			323		0	323	PBA	
SIOH	6.0%			323		0	323	PBA	
Total Const. Cost				2890		3142	\$6,032		
			ļ						
		<u> </u>	ļ		ļ	ļ			
		 	 	<u> </u>				 	
		<u> </u>	<u></u>	l	<u> </u>	1		L	1

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. .DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

60-060

RS&H No.: 694-1331-001 Date:

23-Mar-95

Estimator: W.T.Todd EST-SUMP.WQ1 Filename:

	QUAN	TITV I	LAB	OB I	MATE	RIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION Fixture Removal	140.	OTIN	Ψ/ Ο ι ιιιι	10101	Ψ, σ, ι.ι.				
	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Surf Wrap	0	Ea	12.57	- 6	0.00	0	0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	- 6	0.00	0	0	MEp18	N/A
Low Bay Fixture High Bay Fixture	0	Ea	29.34	- 6	0.00	0	ō	MEp18	N/A
	0	SF	0.63	- 0	0.37	0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF	0.36	- 6	0.72	0	o l	MBp237	MBp237
Inst. Ceiling Tile		5	0.50		0.72	<u>`</u>			
Fixture Installation		Fo	27.50	0	79.95	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea Ea	95.65		186.27	0	0	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	- 6	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	38.61	- 6	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust. 4', 2 Lmp Ind w/Refl	- 0	Ea	38.61	- 0	58.24	0	0	MEp208	GRp918
	0	Ea	25.88	- 6	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip 4', 2 Lamp Strip	0	Ea	27.50	0	47.99	- 0	ō	MEp208	NLp15
2x4, 2 Lamp Surf Mt	- 0	Ea	35.48	0	76.04	0	Ō	MEp208	MEp208
	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA Wet	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 2 Lamp WA w/Refl	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
8', 2 Lamp Indust.	0	_ ca	30.00		Q 7.77				
Fixture Upgrades	3	Ea	1.38	4	0.00	0	4	MEp215	N/A
Remove Incand Lamps	<u> </u>	La	1.30		0.00				
Install Integral CF	 		1.38	0	19.95	0	. 0	MEp215	NLp9
15W w/ Elec Bal	0	Ea Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	I		1.38	4	19.95	60	64	MEp215	NLp9
23W w/ Elec Bal	3	Ea		0	29.95	0	0	MEp215	NLp10
28W w/ Mag Bal	170	Ea	1.38	326	0.00	6	326	MEp13	N/A
Remove Fluor Lamps	178	Ea		979	0.00	0	. 979	MEp211	N/A
Remove Ballasts	89	Ea	11.00	197	0.00	0	197	(1)	N/A
Remove Lampholders	86	Ea	2.29	137	0.00		101		1.77.
Install T8 Lamps		<u>-</u> -	1.83	168	2.02	186	354	MEp13	DGSC
F32T8/TL70/35K	92	Ea Ea	1.83	0	6.40	100	0	MEp13	OS/SYL
F96T8/TL70/35K	1 0		1.83	0	9.34	0	0	MEp13	DGSC
FB32T8/TL70/35K	 	Ea	1.65	 	3.04	 			
Install T8 Ballasts	46	 	11.00	506	22.50	1035	1,541	MEp211	OS/SYL
2-F32T8 Lamps	46	Ea	11.00	0	23.50	1000	1,541	MEp211	OS/SYL
3-F32T8 Lamps	0		11.00	0	24.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	-	33.00	-		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Install Reflectors	┼	 	6 00	- 0	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	6.88	0	15.90	0	0	(3)	NLp18
4' Wrap or Surf	0		9.17			887	1,288	(4)	NLp18
2x4 Troffer	35	Ea	11.46	401	25.35	007	1,200	1 1 1 1	145010
		-	ļ	0505	-	2168	\$4,753		
Total Bare Costs	1		<u> </u>	2585		2100	ψ+,133	1	

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

60-060

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
TTEM DESCRIPTION									
Total Bare Costs				2585		2168	\$4,753		
Economy of Scale			-20.0%	-517		0	(517)	MEp360	
Subtotal				2068		2168	4,236		
City Cost Index			-30.1%	-622	-3.5%	-76	(698)	MEp388	MEp388
Subtotal				1446		2092	3,538		
									145 0
OH & Profit Markups			50.0%	723	10.0%	209	932	MEpiBC	МЕр3
Subtotal				2169		2301	4,470		
									204
Sales Taxes				0	6.5%	150	150		PBA
									ļ
Subtotal				2169		2451	4,620		
								145 4	145-4
Contingency		<u> </u>	10.0%	217	10.0%	245	462	MEp4	MEp4
		ļ					5,000		
Subtotal				2386		2696	5,082		
		<u> </u>		005		.0	305	РВА	
Design Fee	6.0%	ļ	ļ	305		0	305	PBA	
SIOH	6.0%	ļ. —-	<u> </u>	305	 	0	303	FBA	
		ļ	ļ	0000		2696	\$5,692		-
Total Const. Cost	_	<u> </u>		2996	 	2030	\$5,092		
		ļ	<u> </u>						
		-			<u> </u>				
		<u> </u>	-	<u> </u>	ļ				<u> </u>
			-		 	<u> </u>		-	
		-	-	<u> </u>	-			1	
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LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis:

Building:

60-070

RS&H No.: 694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

	QUAN	TITY	LAB	OR I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal									
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' Fl Surf Strip	<u></u>	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	14	Ea	13.34	187	0.00	0	187	MEp17	N/A
4' FI Pend Indust	Ö	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	2	Ea	16.31	33	0.00	0	33	MEp18	N/A
8' FI Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
	0	Ea	22.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture		SF	0.63	9	0.37	5	14	MBp229	MBp229
Repair Plas Ceiling	14			0	0.72	0	Ö	MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36		0.72			WIDDEO	Wibbzor
Fixture Installation					70.05			145-000	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0		MEp208	GRp917
4', 2 Lamp Indust.	17	Ea	38.61	656	53.24	905	1,561	MEp208	
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	126	Ea	1.83	231	0.00	0	231	MEp13	N/A
Remove Ballasts	63	Ea	11.00	693	0.00	0	693	MEp211	N/A
Remove Lampholders	4	Ea	2.29	9	0.00	0	9	(1)	N/A
Install T8 Lamps	1								
F32T8/TL70/35K	114	Ea	1.83	209	2.02	230	439	MEp13	DGSC
F96T8/TL70/35K	8	Ea	1.83	15	6.40	51	66	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0		0	0	MEp13	DGSC
Install T8 Ballasts	 								
2-F32T8 Lamps	57	Ea	11.00	627	22.50	1283	1,910	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	4	Ea	. 11.00	44	35.00	140	184	MEp211	OS/SYL
Install Reflectors	 	 	 	<u> </u>				 	
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0			0	(3)	NLp18
2x4 Troffer	1 0	Ea	11.46	0	25.35		0	(4)	NLp18
ZX4 HUHBI	 	 -~	 ``.70	1				 	1-:
Total Bare Costs	 	 	 	2713	 	2614	\$5,327		
Total Date Costs		<u> </u>	1	2710		2017	40,027	1	1

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

60-070

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: Filename:

W.T.Todd EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2713		2614	\$5,327		
Economy of Scale			-20.0%	-543		0	(543)	MEp360	
Subtotal				2170		2614	4,784		
City Cost Index			-30.1%	-653	-3.5%	-91	(744)	MEp388	MEp388
Subtotal				1517		2523	4,040		
OH & Profit Markups			50.0%	759	10.0%	252	1,011	MEpIBC	МЕр3
Subtotal				2276		2775	5,051		
Sales Taxes				0	6.5%	181	181		PBA
Subtotal				2276		2956	5,232		
Contingency			10.0%	228	10.0%	296	524	MEp4	MEp4
Subtotal				2504		3252	5,756		
Design Fee	6.0%			345		0	345 345	PBA PBA	
SIOH	6.0%			345		0		FBA	
Total Const. Cost				3194		3252	\$6,446		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

60-090

RS&H No.: 694-1331-001

23-Mar-95

Date:

Estimator: W.T.Todd

Filename:

	QUAN	TITV	LAB	OB I	MATE	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	100.	OTIL	Ψ/ΟΙΙΙΙ	10141	\$7,01				
Fixture Removal	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	- 6	Ea	14.66	0	0.00	ō	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	0		13.34	0	0.00	0	0	MEp17	N/A
4' Fi Surf Wrap	29	Ea	12.57	365	0.00	0	365	MEp18	N/A
4' FI Pend Indust	0	Ea Ea	16.31	303	0.00	0	0	MEp18	N/A
8' Fl Pend Indust			11.00	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	0	0.00	0	- 0	MEp18	N/A
Low Bay Fixture		Ea	29.34	0	0.00	. 0	- 6	MEp18	N/A
High Bay Fixture	0	Ea	0.63	0	0.37	- 0	0	MBp229	MBp229
Repair Plas Ceiling	0	SF			0.72	- 6		MBp237	MBp237
Inst. Ceiling Tile	0	SF	0.36	. 0	0.72			MDP20	Mispeon
Fixture Installation					70.05		0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209 MEp208	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34		1,011	MEp208	GRp917
4', 2 Lamp Indust.	11	Ea	38.61	425	53.24	586	1,646	MEp208	GRp918
4', 2 Lmp Ind w/Refl	17	Ea	38.61	656	58.24	990		MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0		NLp15
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	· MEp208	GRp917
Fixture Upgrades					·				
Remove Incand Lamps	8	Ea	1.38	11	0.00	0	11	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	6	Ea	1.38	8	19.95	120	128	MEp215	NLp9
20W w/ Elec Bal	2	Ea	1.38	3	19.95	40	43	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	0	Ea	1.83	0	0.00	0	0	MEp13	N/A
Remove Ballasts	0	Ea	11.00	0	0.00	0	0	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	0	Ea	1.83	0	2.02	0	0	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	Ō	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	╁	+ ===	1	<u> </u>	 	<u> </u>			
2-F32T8 Lamps	0	Ea	11.00	0	22.50	0	0	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	ō	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0		0	0	MEp211	OS/SYL
2-F96T8 Lamps	0		11.00	0		0	0	MEp211	OS/SYL
	 	+ <u>-a</u>	11.00	 	- 55.55				,
Instail Reflectors	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Strp or Indst			9.17			1	0	(3)	NLp18
4' Wrap or Surf	0					0	0	(4)	NLp18
2x4 Troffer	<u> </u>	Ea	11.46	J	25.35		<u> </u>	 	142010
	ļ	-	 	1100	 	1700	\$2.004		
Total Bare Costs				1468	1	1736	\$3,204	L	1

Project:

Lighting Upgrade

Location: Basis: Pine Bluff Arsenal, AR Pre-Design Study

Building:

60-090

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
				1400		1706	\$3,204		
Total Bare Costs	<u> </u>			1468		1736	Φ3,204		
Economy of Scale			-20.0%	-294		0	(294)	МЕр360	
Subtotal				1174		1736	2,910		
City Cost Index			-30.1%	-353	-3.5%	-61	(414)	MEp388	MEp388
Subtotal				821		1675	2,496	•	
OH & Profit Markups			50.0%	411	10.0%	168	579	MEpiBC	MEp3
On a Front Markups			30.070		10.070				
Subtotal				1232		1843	3,075		
Sales Taxes				0	6.5%	120	120		PBA
Subtotal				1232		1963	3,195		
Contingency			10.0%	123	10.0%	196	319	MEp4	MEp4
Subtotal				1355		2159	3,514		
Design Fee	6.0%			211		0	211	PBA	
SIOH	6.0%			211		0	211	PBA	
Total Const. Cost				1777		2159	\$3,936		

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project:

Location:

Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 60-630

RS&H No.: 694-1331-001

Date: Estimator:

23-Mar-95 W.T.Todd

Filename:

	QUAN	TITY	LAE	OR I	MATE	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal									
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	. 0	0	MEp17	N/A
2x4 FI Troffer	0	Ea	14.66	0	0.00	0	0	MEp17	N/A
4' FI Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Pend Indust	0	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' Fl Pend Indust	ō	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	ō	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	9	Ea	22.00	198	0.00	0	198	MEp18	N/A
High Bay Fixture	ō	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	ō	0.72	0	0	MBp237	MBp237
Fixture Installation			0.00						
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	ō	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	ō	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	ō	0	MEp208	NLp15
4', 2 Lamp WA Wet	15	Ea	68.75	1031	84.04	1261	2,292	MEp210	MEp210
4', 2 Lamp WA w/Refl	- 0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades			00.00		<u> </u>				
Remove Incand Lamps	1	Ea	1.38	1	0.00	0	1	MEp215	N/A
Install Integral CF	<u> </u>		1.00						
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	1	Ea	1.38	1	19.95	20	21	MEp215	NLp9
23W w/ Elec Bal	ō	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	ō	0	MEp215	NLp10
Remove Fluor Lamps	26	Ea	1.83	48	0.00	o	48	MEp13	N/A
Remove Ballasts	13	Ea	11.00	143	0.00	ō	143	MEp211	N/A
Remove Lampholders	4	Ea	2.29	9	0.00	0	9	(1)	N/A
Install T8 Lamps	1		2.20		3.55			\\\	
F32T8/TL70/35K	22	Ea	1.83	40	2.02	44	84	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	O	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts	 		 						
2-F32T8 Lamps	11	Ea	11.00	121	22.50	248	369	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	120	23.50	0	0		OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors	 	 _	1						
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
207 1101161	 	+==	11.45		-3.00	**********		1	
Total Bare Costs	 	1	 	1592	 	1573	\$3,165		†
Total Date Costs		L	<u> </u>	1002		1 ,0,0	40, 100	L	<u> </u>

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: Building: Pre-Design Study 60-630 RS&H No.: Date:

Filename:

694-1331-001 23-Mar-95

Estimator: W.

W.T.Todd EST-SUMP.WQ1

	QUANT	TTY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION		Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
				1 700		4570	#0.4CE		
Total Bare Costs				1592		1573	\$3,165		
Economy of Scale			-20.0%	-318		0	(318)	МЕр360	
Subtotal				1274		1573	2,847		
City Cost Index			-30.1%	-383	-3.5%	-55	(438)	MEp388	MEp388
Subtotal				891		1518	2,409		
OH & Profit Markups			50.0%	446	10.0%	152	598	MEpIBC	MEp3
Subtotal				1337		1670	3,007		
Sales Taxes				0	6.5%	109	109		PBA
Subtotal				1337		1779	3,116		
Contingency			10.0%	134	10.0%	178	312	MEp4	MEp4
			10,0,0						
Subtotal				1471		1957	3,428		
Design Fee	6.0%			206		0	206	PBA	
SIOH	6.0%			206		0	206	PBA	
Total Const. Cost				1883		1957	\$3,840		
	+								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project:

Location:

Lighting Upgrade Pine Bluff Arsenal, AR Pre-Design Study

Basis: Building:

63-100

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN'	TITY	ΙΔΕ	BOR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	110.		Ψ/Οτιιτ	- 10.0.	• , ••				
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0	0.00	ō	0	MEp17	N/A
4' Fl Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' Fi Pend Indust	9	Ea	12.57	113	0.00	0	113	MEp18	N/A
8' FI Pend Indust	7	Ea	16.31	114	0.00	0	114	MEp18	N/A
8' Fl Surf Strip	Ö	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	Ö	0.00	Ō	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
Repair Plas Ceiling	0	SF	0:63	0	0.37	0	ō	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation			0.00		0				
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	. 0	ō	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	ō	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	8	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	ō	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades		La	30.00		04.44				
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF	- -	L.a	1.00		0.00				
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0.	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	Ö	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	240	Ea	1.83	439	0.00	0	439	MEp13	N/A
Remove Ballasts	120	Ea	11.00	1320	0.00	0	1,320	MEp211	N/A
Remove Lampholders	66	Ea	2.29	151	0.00	0	151	(1)	N/A
Install T8 Lamps	30	La	£.23	101	0.00	<u>-</u>	101		, ,,,,
F32T8/TL70/35K	92	Ea	1.83	168	2.02	186	354	MEp13	DGSC
F96T8/TL70/35K	82	Ea	1.83	150	6.40	525	675	MEp13	OS/SYL
FB32T8/TL70/35K	02	Ea	1.83	150	9.34	0	0/3	MEp13	DGSC
		L Ca	1.03	-	3.54	-		WILPIO	- 5000
Install T8 Ballasts	46	Ea	11.00	506	22.50	1035	1,541	MEp211	OS/SYL
2-F32T8 Lamps	0	Ea	11.00	0	23.50	1033	1,341	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps 2-F96T8 Lamps	41	Ea	11.00	451	35.00	1435	1,886	MEp211	OS/SYL
	 "	- ca	11.00		33.00	1700	1,000	WICHELL	00/012
Install Reflectors		En	6 00	0	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea Ea	6.88 9.17	18	15.90	32	50	(3)	NLp18
4' Wrap or Surf	2		. 	18			. 0		
2x4 Troffer	0	Ea	11.46	<u> </u>	25.35	0		(4)	NLp18
Total Bass Casta			-	2420	 	2012	\$6 642		-
Total Bare Costs	<u></u>	L	L	3430		3213	\$6,643	l	l

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-100

RS&H No.:

694-1331-001 23-Mar-95

Date:

W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOU	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				3430		3213	\$6,643		
							(000)	145-000	
Economy of Scale			-20.0%	-686		0	(686)	MEp360	
				2744		3213	5,957		
Subtotal				2144		3213	3,337		
City Cost Index			-30.1%	-826	-3.5%	-112	(938)	MEp388	MEp388
Subtotal				1918		3101	5,019		
OH & Profit Markups			50.0%	959	10.0%	310	1,269	MEpiBC	МЕр3

Subtotal				2877		3411	6,288		
					0.50/	000	200		PBA
Sales Taxes				0	6.5%	222	222		FDA
Subtotal	+	i 		2877		3633	6,510		
Gubiotai	+								
Contingency			10.0%	288	10.0%	363	651	MEp4	MEp4
Subtotal				3165		3996	7,161		
	0.004			400		0	430	PBA	
Design Fee	6.0%			430 430		0	430	PBA	
SIOH	6.0%			450		0	400	100	
Total Const. Cost	+	-		4025		3996	\$8,021		
. 5.0. 55115. 5551	1						,		
	ļ	<u> </u>							
<u></u>	_L		<u> </u>	l	L	<u> </u>		<u> </u>	<u> </u>

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

PBA

(1)

Information provided by Pine Bluff Arsenal staff.

Assume lampholder removal takes 5 minutes each.

(2) (3) Assume 15 minutes for installation of reflector. Assume 20 minutes for installation of reflector.

(4)

Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-110

Date:

RS&H No.: 694-1331-001 23-Mar-95

Estimator: W.T.Todd

Filename: EST-SUMP.WQ1

	QUAN	TITV I	LAE	IOR I	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	140.	Othe	Ψ/ Ο ι ι ι ι	10.01	Ψ, σ	7, 5, 2, 2, 2			
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 Fl Troffer	2	Ea	14.66	29	0.00	0	29	MEp17	N/A
	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' FI Surf Strip	2	Ea	13.34	27	0.00	Ö	27	MEp17	N/A
4' Fl Surf Wrap	- 6	Ea	12.57	0	0.00	0	0	MEp18	N/A
4' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	11.00	- 0	0.00	0	ō	MEp18	N/A
8' Fl Surf Strip	0	Ea	22.00	- 6	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	N/A
High Bay Fixture		SF	0.63	1	0.37	1	2	MBp229	MBp229
Repair Plas Ceiling	2		0.63	6	0.72	12	18	MBp237	MBp237
Inst. Ceiling Tile	16	SF	0.36	- 0	- 0.72	12		Wiepzer	
Fixture Installation			07.50		70.05	0	0	MEp209	NLp12
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95 186.27	0	0	MEp209	GRp923
High Bay, 1-100W MH	0	Ea	95.65	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp indust.	00	Ea	36.99	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	38.61			0	0	MEp208	GRp915
4', 1 Lamp Strip	0	Ea	25.88	0	44.18 47.99	- 6	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50	0		0	- 0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04		0	MEp200	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207 MEp208	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54				MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades								145-045	NI/A
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF								145 045	NI - 0
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0_	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	290	Ea	1.83	531	0.00	0	531	MEp13	N/A
Remove Ballasts	145	Ea	11.00	1595	0.00	0	1,595	MEp211	N/A
Remove Lampholders	140	Ea	2.29	321	0.00	0	321	(1)	N/A
Instail T8 Lamps									
F32T8/TL70/35K	138	Ea	1.83	253	2.02	279	532	MEp13	DGSC
F96T8/TL70/35K	18	Ea	1.83	33	6.40	115	148	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	60	Ea	11.00	660	22.50	1350	2,010	MEp211	OS/SYL
3-F32T8 Lamps	6		11.00	66	23.50	141	207	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	9	Ea	11.00	99	35.00	315	414	MEp211	OS/SYL
Install Reflectors		T				1			
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18
	 	† 	1		1			1	
Total Bare Costs	+	+	 	3621	1	2213	\$5,834		1
TOTAL DATA COSTS	1		1				, ,,,,,,,	 	<u> </u>

Project:

Lighting Upgrade

Location:

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-110

RS&H No.: 694-1331-001

Date:

23-Mar-95

Estimator:

W.T.Todd

EST-SUMP.WQ1 Filename:

building. 63-110										
	QUANTI	TY	LAE	BOR	MAT	ERIAL	TOTAL		IRCE	
ITEM DESCRIPTION	No. L	Jnit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material	
Total Bare Costs				3621		2213	\$5,834			
Economy of Scale			-20.0%	-724		0	(724)	MEp360		
Subtotal				2897		2213	5,110			
									145 000	
City Cost Index			-30.1%	-872	-3.5%	-77	(949)	MEp388	MEp388	
Subtotal				2025		2136	4,161		ļ	
					10.000	011	4 007	145 100		
OH & Profit Markups			50.0%	1013	10.0%	214	1,227	MEpIBC	MEp3	
							5.000			
Subtotal				3038		2350	5,388			
					0.534	450	150		PBA	
Sales Taxes				0	6.5%	153	153		PDA	
	_			2020		2503	5,541			
Subtotal				3038		2503	5,541		 	
· ·			10.0%	304	10.0%	250	554	MEp4	MEp4	
Contingency	+		10.0%	304	10.0%	230	334	WILDT	1912.57	
0 1.4-4-1				3342		2753	6,095			
Subtotal				0042		2730	0,000			
Design Fee	6.0%			366		0	366	PBA		
SIOH	6.0%			366		0	366	PBA		
31011	- 0.070									
Total Const. Cost	+			4074		2753	\$6,827			
, , , , , , , , , , , , , , , , , , , ,			<u> </u>							

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

(3) Assume 20 minutes for installation of reflector.

Assume 25 minutes for installation of reflector. (4)

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-120

RS&H No.: 694-1331-001

Date: Estimator:

23-Mar-95 W.T.Todd

Filename:

	QUAN	TITY	LAF	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	1101		4, 5						
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	. 0	MEp17	N/A
2x4 Fl Troffer	1	Ea	14.66	15	0.00	0	15	MEp17	N/A
4' Fl Surf Strip	Ö	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fi Surf Wrap	0	Ea	13.34	0	0.00	0	0	MEp17	N/A
4' FI Pend Indust	8	Ea	12.57	0	0.00	0	0	MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	N/A
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	ō	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	ō	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	8	SF	0.36	3	0.72	6	9	MBp237	MBp237
	- 0	31	0.00	-	0.72			1115 1257	оргоч
Fixture Installation 11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Boy 1 100W MH	0	Ea	95.65	0	186.27	0	ő	MEp208	GRp923
High Bay, 1-100W MH	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 1 Lamp Indust.	0		38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lamp Indust.	0	Ea Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 2 Lmp Ind w/Refl	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 1 Lamp Strip				0	47.99	0	0	MEp208	NLp15
4', 2 Lamp Strip	0	Ea	27.50			0	0	MEp208	MEp208
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp207	NLp15
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99 56.54	0	0	MEp208	NLp15
4', 2 Lamp WA	0	Ea	31.43	0		0	0	MEp208	MEp210
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0		NLp15
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54			MEp208	
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	- 0	U	MEp208	GRp917
Fixture Upgrades			4.00		0.00			MEp215	NI/A
Remove Incand Lamps	2	Ea	1.38	3	0.00	0	3	MEDZ13	N/A
Install Integral CF			1.00		10.05			145-015	All =0
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0		MEp215	NLp9
23W w/ Elec Bal	2	Ea	1.38	3	19.95	40	43	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	56	Ea	1.83	102	0.00	0	102	MEp13	N/A
Remove Ballasts	28	Ea	11.00	308	0.00	0	308	MEp211	N/A
Remove Lampholders	14	Ea	2.29	32	0.00	0	32	(1)	N/A
Instail T8 Lamps		<u> </u>	1.55		0.00		6.1	ME - 40	0000
F32T8/TL70/35K	22	Ea	1.83	40	2.02	44	84	MEp13	DGSC
F96T8/TL70/35K	20	Ea	1.83	37	6.40	128	165	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Instail T8 Ballasts	ļ				1			145 544	
2-F32T8 Lamps	11	Ea	11.00	121	22.50	248	369	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
2-F96T8 Lamps	10	Ea	11.00	110	35.00	350	460	MEp211	OS/SYL
Install Reflectors		<u> </u>			<u> </u>				
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18

Total Bare Costs				774		816	\$1,590		

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

63-120

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOU	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
						, , ,			
Total Bare Costs				774		816	\$1,590		
								145 000	
Economy of Scale			-20.0%	-155		0	(155)	MEp360	
				010		816	1,435		
Subtotal				619		810	1,400		
City Cost Index			-30.1%	-186	-3.5%	-29	(215)	MEp388	MEp388
Only Good Intox									
Subtotal				433		787	1,220		
OLL 8 Design Managemen			50.0%	217	10.0%	79	296	MEpiBC	МЕрЗ
OH & Profit Markups			30.0%	217	10.076	7.5	200		
Subtotal	-			650		866	1,516		
Sales Taxes				0	6.5%	56	56		PBA
O linear		<u> </u>	ļi	650		922	1,572		
Subtotal			-	030		322	1,072		
Contingency			10.0%	65	10.0%	92	157	MEp4	MEp4
							4 700		
Subtotal		ļ		715		1014	1,729		ļ.———
Design Fee	6.0%			104		0	104	РВА	
SIOH	6.0%			104		0	104	PBA	

Total Const. Cost				923		1014	\$1,937		
	- 	 		ļ					
		+							
	\dashv	1	1						

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. **PBA**

Assume lampholder removal takes 5 minutes each. (1)

(2) Assume 15 minutes for installation of reflector.

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector. (4)

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-200

RS&H No.: 694-1331-001

Date: Estimator: 23-Mar-95 W.T.Todd

EST-SUMP.WQ1 Filename:

	QUAN	TITV I	LAE	OB I	MATI	ERIAL	TOTAL	sou	RCE
ITEL DECORIBION		Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
ITEM DESCRIPTION	No.	Unit	Φ/Oππ	TOTAL	φ/Οιπι	10141	- 5551		
Fixture Removal			10.01	0	0.00	0	0	MEp17	N/A
2x2 UTF or Inc Surf	0	Ea	10.01		0.00	- 6	- 	MEp17	N/A
2x4 Fl Troffer	0	Ea	14.66	0			0	MEp18	N/A
4' FI Surf Strip	0	Ea	9.79	0	0.00		0	MEp17	N/A
4' Fl Surf Wrap	0	Ea	13.34	0	0.00	0	0		N/A
4' Fi Pend Indust	0	Ea	12.57	0	0.00	0		MEp18	N/A
8' FI Pend Indust	0	Ea	16.31	0	0.00	0	0	MEp18	
8' Fl Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	0	0	MEp18	N/A N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	0	MEp18	
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0	0	MBp237	MBp237
Fixture Installation									10
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refi	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0_	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0_	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades									
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF									
15W w/ Elec Bal	0.	Ea	1.38	Q	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	398	Ea	1.83	728	0.00	0	728	MEp13	N/A
Remove Ballasts	199	Ea	11.00	2189	0.00	0	2,189	MEp211	N/A
Remove Lampholders	54	Ea	2.29	124	0.00	0	124	(1)	N/A
Install T8 Lamps									
F32T8/TL70/35K	344	Ea	1.83	630	2.02	695	1,325	MEp13	DGSC
F96T8/TL70/35K	0	Ea	1.83	0	6.40	0	0	MEp13	OS/SYL
FB32T8/TL70/35K	0	Ea	1.83	0	9.34	0	0	MEp13	DGSC
Install T8 Ballasts									
2-F32T8 Lamps	36	Ea	11.00	396	22.50	810	1,206	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211	OS/SYL
4-F32T8 Lamps	68	Ea	11.00	748	24.50	1666	2,414	MEp211	OS/SYL
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL
Install Reflectors									
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18
4' Wrap or Surf	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
2x4 Troffer	14	Ea	11.46	160	25.35	355	515	(4)	NLp18
			1		1				
Total Bare Costs	1	†		4975		3526	\$8,501		

Project: Location: Lighting Upgrade Pine Bluff Arsenal, AR

Basis: **Building:** Pre-Design Study 63-200

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	TQUAN	TITY	LAE	BOR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				4975		3526	\$8,501		
Economy of Scale			-20.0%	-995		0	(995)	MEp360	
Subtotal				3980		3526	7,506		
									145 000
City Cost Index			-30.1%	-1198	-3.5%	-123	(1,321)	MEp388	MEp388
							0.405		
Subtotal				2782		3403	6,185		
				1001	40.00/	240	1 701	MEpIBC	MEp3
OH & Profit Markups			50.0%	1391	10.0%	340	1,731	MEDIBO	MEDS
				4173		3743	7,916		
Subtotal				4173		3/43	7,310		
O. L. T.	-	 		0	6.5%	244	244		РВА
Sales Taxes					0.076	277			
Subtotal				4173		3987	8,160		
Subiolai	+								
Contingency			10.0%	417	10.0%	399	816	MEp4	MEp4
Contingency									
Subtotal				4590		4386	8,976		
Design Fee	6.0%			539		0	539	PBA	
SIOH	6.0%			539		0	539	PBA	
Total Const. Cost				5668		4386	\$10,054		
			<u> </u>						ļ
			ļ						
		<u> </u>							
		<u> </u>		<u> </u>	<u> </u>			1	L

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

National Lighting Maintenance Supply Corp., 1995, page ###. NLp###

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. **PBA**

Assume lampholder removal takes 5 minutes each. (1)

(2) Assume 15 minutes for installation of reflector.

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector.

Project:

Lighting Upgrade Pine Bluff Arsenal, AR

Location: Basis:

Pre-Design Study

Building:

63-210

RS&H No.: 694-1331-001

Date:

23-Mar-95 Estimator: W.T.Todd

Filename: EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	FRIAL	TOTAL	sou	RCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Fixture Removal	- : : :		- 1 - 1						
2x2 UTF or Inc Surf	0	Ea	10.01	0	0.00	0	0	MEp17	N/A
2x4 FI Troffer	0	Ea	14.66	Ō	0.00	0	0	MEp17	N/A
4' FI Surf Strip	0	Ea	9.79	0	0.00	0	0	MEp18	N/A
4' Fl Surf Wrap	Ö	Ea	13.34	ō	0.00	0	0	MEp17	N/A
4' Fi Pend Indust	0	Ea	12.57	ō	0.00	0	0	MEp18	N/A
8' Fi Pend Indust	15	Ea	16.31	245	0.00	0	245	MEp18	N/A
8' FI Surf Strip	0	Ea	11.00	0	0.00	0	0	MEp18	N/A
Low Bay Fixture	0	Ea	22.00	0	0.00	ō	0	MEp18	N/A
High Bay Fixture	0	Ea	29.34	0	0.00	0	O	MEp18	N/A
Repair Plas Ceiling	0	SF	0.63	0	0.37	0	0	MBp229	MBp229
Inst. Ceiling Tile	- 6	SF	0.36	0	0.72	0	ō	MBp237	MBp237
Fixture Installation		-	0.00		J., _				
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12
High Bay, 1-100W MH	0	Ea	95.65	- 6	186.27	0	ō	MEp208	GRp923
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918
4', 2 Lamp Indust.	0	Ea	38.61	- 6	53.24	0	0	MEp208	GRp917
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918
4', 1 Lamp Strip	0	Ea	25.88	0	44.18	0	0	MEp208	GRp915
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208	NLp15
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15
4', 2 Lamp WA	0	Ea	31.43	0	56.54	0	0	MEp208	NLp15
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917
Fixture Upgrades		La	30.00		04.44				<u> </u>
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A
Install Integral CF		La	1.00		0.00				
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
23W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9
28W w/ Mag Bal	0	Ea	1.38	0	29.95	0	0	MEp215	NLp10
Remove Fluor Lamps	170	Ea	1.83	311	0.00	0	311	MEp13	N/A
Remove Ballasts	85	Ea	11.00	935	0.00	0	935	MEp211	N/A
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A
Install T8 Lamps	 								
F32T8/TL70/35K	70	Ea	1.83	128	2.02	141	269	MEp13	DGSC
F96T8/TL70/35K	100	Ea	1.83	183	6.40	640	823	MEp13	OS/SYL
FB32T8/TL70/35K	100	Ea	1.83	100	9.34	040	0	MEp13	DGSC
Install T8 Ballasts	 	<u></u>	1.03	 	J.57	 		,,,,,,,,,	
2-F32T8 Lamps	35	Ea	11.00	385	22.50	788	1,173	MEp211	OS/SYL
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	1,170	MEp211	OS/SYL
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL
	50	Ea	11.00	550	35.00	1750	2,300	MEp211	OS/SYL
2-F96T8 Lamps	30	<u>Ea</u>	11.00	330	- 55.55	1,30	2,000	1412-02-11	33/012
Install Reflectors	-	-	6.88	0	7.95	0	0	(2)	NLp18
4' Strp or Indst	0	Ea	9.17	0	15.90	0	0	(3)	NLp18
4' Wrap or Surf		Ea		0	25.35	0	0		NLp18
2x4 Troffer	0	Ea	11.46	U	25.35	<u> </u>	<u> </u>	(4)	INCDIO
7.10	ļ	 	 	0707	-	2210	QC 050		
Total Bare Costs	İ	<u> </u>	<u> </u>	2737	l	3319	\$6,056	<u> </u>	<u> </u>

Project: Location: Lighting Upgrade

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-210

RS&H No.:

694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	SOURCE	
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
Total Bare Costs				2737		3319	\$6,056		
Economy of Scale			-20.0%	-547		0	(547)	MEp360	
Subtotal				2190		3319	5,509		
City Cost Index			-30.1%	-659	-3.5%	-116	(775)	MEp388	МЕр388
Subtotal				1531		3203	4,734		
OH & Profit Markups			50.0%	766	10.0%	320	1,086	MEpiBC	МЕр3
Subtotal				2297		3523	5,820		
Sales Taxes				0	6.5%	229	229		PBA
Subtotal				2297		3752	6,049		
Contingency			10.0%	230	10.0%	375	605	MEp4	MEp4
Subtotal				2527		4127	6,654		
Design Fee	6.0%			399		0	399	PBA PBA	
SIOH	6.0%			399		0	399	PDA	
Total Const. Cost				3325		4127	\$7,452		
								,	

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

DGSC Defense General Supply Center, February 1994 Catalog.

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

MEp### Means Electrical Cost Data, 1994, page ###.

NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

OS/SYL Telephone quote from Osram/Sylvania representative.

PBA Information provided by Pine Bluff Arsenal staff.

(1) Assume lampholder removal takes 5 minutes each.

(2) Assume 15 minutes for installation of reflector.

(3) Assume 20 minutes for installation of reflector.

(4) Assume 25 minutes for installation of reflector.

Project: Location: Lighting Upgrade

Pine Bluff Arsenal, AR

Basis:

Pre-Design Study

Building:

63-410

RS&H No.: 694-1331-001

Date:

23-Mar-95 W.T.Todd

Estimator: Filename:

	QUAN'	TITV	LABOR		ΜΔΤ	ERIAL	TOTAL	SOURCE		
TEM DECONDENS	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material	
ITEM DESCRIPTION	NO.	Offic	φ/ΟΠΙΙ	Total	Ψ/Οι πι	10(4)	- 0001			
Fixture Removal		Ea	10.01	0	0.00	0	0	MEp17	N/A	
2x2 UTF or Inc Surf	0	Ea	14.66	0	0.00	0	Ö	MEp17	N/A	
2x4 Fl Troffer	0	Ea	9.79	0	0.00	- 6	Ö	MEp18	N/A	
4' FI Surf Strip	97	Ea	13.34	1294	0.00	0	1,294	MEp17	N/A	
4' FI Surf Wrap	0	Ea	12.57	0	0.00	0	1,234	MEp18	N/A	
4' Fi Pend Indust			16.31	0	0.00	0	0	MEp18	N/A	
8' FI Pend Indust	0	Ea		0	0.00	0	0	MEp18	N/A	
8' Fl Surf Strip	0	Ea	11.00		0.00	- 0	0	MEp18	N/A	
Low Bay Fixture	0	Ea	22.00	0		0	0	MEp18	N/A	
High Bay Fixture	0	Ea	29.34	0.	0.00				MBp229	
Repair Plas Ceiling	97	SF	0.63	61	0.37	36	97	MBp229		
Inst. Ceiling Tile	0	SF	0.36	0	0.72	0		MBp237	MBp237	
Fixture Installation								145 -000	NII - 10	
11" Srf, 2-26W CFL	0	Ea	27.50	0	79.95	0	0	MEp209	NLp12	
High Bay, 1-100W MH	0	Ea	95.65	0	186.27	0	0	MEp208	GRp923	
4', 1 Lamp Indust.	0	Ea	36.99	0	52.34	0	0	MEp208	GRp918	
4', 2 Lamp Indust.	0	Ea	38.61	0	53.24	0	0	MEp208	GRp917	
4', 2 Lmp Ind w/Refl	0	Ea	38.61	0	58.24	0	0	MEp208	GRp918	
4', 1 Lamp Strip	73	Ea	25.88	1889	44.18	3225	5,114	MEp208	GRp915	
4', 2 Lamp Strip	0	Ea	27.50	0	47.99	0	0	MEp208_	NLp15	
2x4, 2 Lamp Surf Mt	0	Ea	35.48	0	76.04	0	0	MEp208	MEp208	
2x4, 2 Lamp Troffer	0	Ea	41.50	0	58.99	0	0	MEp207	NLp15	
4', 2 Lamp WA	20	Ea	31.43	629	56.54	1131	1,760	MEp208	NLp15	
4', 2 Lamp WA Wet	0	Ea	68.75	0	84.04	0	0	MEp210	MEp210	
4', 2 Lamp WA w/Refl	0	Ea	31.43	0	75.54	0	0	MEp208	NLp15	
4', 4 Lamp WA	0	Ea	41.50	0	71.58	0	0	MEp208	NLp15	
8', 2 Lamp Indust.	0	Ea	50.00	0	84.44	0	0	MEp208	GRp917	
Fixture Upgrades										
Remove Incand Lamps	0	Ea	1.38	0	0.00	0	0	MEp215	N/A	
Install Integral CF										
15W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9	
20W w/ Elec Bal	0	Ea	1.38	0	19.95	0	0	MEp215	NLp9	
23W w/ Elec Bai	ō	Ea	1.38	0	19.95	0	0	MEp215	NLp9	
28W w/ Mag Bal	ō	Ea	1.38	0	29.95	0	0	MEp215	NLp10	
Remove Fluor Lamps	55	Ea	1.83	101	0.00	0	101	MEp13	N/A	
Remove Ballasts	55	Ea	11.00	605	0.00	0	605	MEp211	N/A	
Remove Lampholders	0	Ea	2.29	0	0.00	0	0	(1)	N/A	
Install T8 Lamps	 	<u> </u>			- 3.33		,		1	
F32T8/TL70/35K	55	Ea	1.83	101	2.02	111	212	MEp13	DGSC	
F96T8/TL70/35K	0	Ea	1.83	101	6.40	0	0	MEp13	OS/SYL	
	0		1.83	0	9.34	0	0	MEp13	DGSC	
FB32T8/TL70/35K	U	Ea	1.63	<u> </u>	3.34	-	<u> </u>	MICHIO		
Install T8 Ballasts	==	<u> </u>	11.00	COE	22.50	1238	1,843	MEp211	OS/SYL	
2-F32T8 Lamps	55	Ea		605					OS/SYL	
3-F32T8 Lamps	0	Ea	11.00	0	23.50	0	0	MEp211		
4-F32T8 Lamps	0	Ea	11.00	0	24.50	0	0	MEp211	OS/SYL	
2-F96T8 Lamps	0	Ea	11.00	0	35.00	0	0	MEp211	OS/SYL	
Install Reflectors									NII 12	
4' Strp or Indst	0	Ea	6.88	0	7.95	0	0	(2)	NLp18	
4' Wrap or Surf	0	Ea	9.17	0	15.90	. 0	0	(3)	NLp18	
2x4 Troffer	0	Ea	11.46	0	25.35	0	0	(4)	NLp18	
Total Bare Costs	l			5285	<u> </u>	5741	\$11,026			

Project:

Lighting Upgrade

Location: Basis:

Pine Bluff Arsenal, AR Pre-Design Study

Building:

63-410

RS&H No.: 694-1331-001 23-Mar-95

Date: Estimator:

W.T.Todd

Filename:

EST-SUMP.WQ1

	QUAN	TITY	LAE	OR	MAT	ERIAL	TOTAL	sou	IRCE
ITEM DESCRIPTION	No.	Unit	\$/Unit	Total	\$/Unit	Total	COST	Labor	Material
								:	
Total Bare Costs		•		5285		5741	\$11,026		
Economy of Scale			-20.0%	-1057		0	(1,057)	MEp360	
				4000			9,969		
Subtotal				4228		5741	9,909		
City Cost Index			-30.1%	-1273	-3.5%	-201	(1,474)	MEp388	MEp388
Subtotal				2955		5540	8,495		
Old 9 Broth Madeuse	_		50.0%	1478	10.0%	554	2,032	MEpIBC	MEp3
OH & Profit Markups			30.078	1770	10.070		2,002	1110,0100	
Subtotal				4433		6094	10,527		
Occioiai						1			
Sales Taxes				0	6.5%	397	397		PBA
Subtotal		<u></u>		4433		6491	10,924		
Contingency			10.0%	443	10.0%	649	1,092	MEp4	MEp4
Subtotal				4876		7140	12,016		
Design Fee	6.0%			721		0	721	PBA	
SIOH	6.0%			721		0	721	PBA	
Total Const. Cost				6318		7140	\$13,458		
	 								

LEGEND & NOTES

Labor costs based on Means manhour estimates and labor rate (\$27.50/hr).

Defense General Supply Center, February 1994 Catalog. DGSC

GRp### Grainger Catalog No. 385, page ###, x 0.80 for contr price.

MBp### Means Building Construction Cost Data, 1994, page ###.

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NLp### National Lighting Maintenance Supply Corp., 1995, page ###.

Telephone quote from Osram/Sylvania representative. OS/SYL

Information provided by Pine Bluff Arsenal staff. PBA

Assume lampholder removal takes 5 minutes each. (1)

Assume 15 minutes for installation of reflector. (2)

Assume 20 minutes for installation of reflector. (3)

Assume 25 minutes for installation of reflector.

mart							SHE	ET OF		
RSH Construction Cost Es		ileno. +- 33 -001								
DECUTOT		-					DAT	E 3-23-95		
Lighting Upgrade Location Pine Bluff Arsenal							ESTIMATOR			
Pine Bluff Arsenal	<u>, AR</u>						CHE	CKER		
BASIS FOR ESTIMATE PRE-DESIGN STUDY G SCHEMATIC DES		☐ DESIG	N DEVELO	PMENT 🔲	FINAL DESI	GN				
M. J. // a Dades	QUA			ABOR 2			Θ	TOTAL COST		
SUMMARY Maint. / Lamp Replace.	NO. UNITS	UNIT MEAS.	PER UNIT	TOTAL	PER UNIT	ATOT				
Assume average life of	T12	and	T8	system	ऽ ोऽ	150	00	hours		
					_					
15000 hrs = 250	00 D	c. hrs	/yea	$r \Rightarrow 6$	0 ye	ar	Lit	೭		
TIZ LAMP REPLACEMENT:	9221	Eq			1,69	x 0.8	 ?0	12467		
F40 T12 Lamps	1690	Ea			4,27	×0.8		5773		
F96 T12 Lamps	26	La Ea			7.41	x0.8		154		
FB40 T12 Lamps	~	24								
Subtotal								18394		
Markup for Profit						10	%	1839		
was kep is it										
Total Cost								\$20,233		
Cost per Year				\$20	233	÷6,	0 =	\$3,372		
TO LAMP REPLACEMENT:										
F32 T8 Lamps	6488			1	2.02			13106		
F96 T8 Lamps	1104		-		6.40		 -	7066		
FB32T8 Lamps	26	Ea			9,34	-		243		
			-			-		20415		
Subtotal	 					1.	07	2042		
Markup for Profit	 		-			10	<i>%</i>			
This	1				-			22457		
Total Cost	1		-	\$ 1	2 457	÷ (0 =	· · · · · · · · · · · · · · · · · · ·		
Cost per Year	1	1	+	+ 4	7 7 /	1	<u> </u>			
1 Motoral 1014 Fam TID	100	nc I	(× 0.8	For	(00	tractor Price		
1) Material cost for T12 1) Assume labor cost	ic +		nun o	for T	8 25	F12	√e,F	Vacement,		

A CONTRACTOR OF THE PROPERTY O

RSH.

SUBJECT	Ligh	leti ua	U	Dava	de_
Pin	e (31	uffl	Avs	eha	LAR
DESIGNER		WT	Γ		<u>.</u>

AEP NO 694-1331-001
SHEET OF
DATE 3-24-95
DATE

Maintenance / Replacement Cost

Existing T12 hamps:	F40712	F96T12
Lamps Removed Assume 85% ave 4' Subtotal	8776 *0.85 7460	8776 ×0.15
Fixtures Removed × Lamps per fixture Subtotal	587 * 3 1761	187 × 2 374
Total Exist. Lamps	9221	1690

New T8 Lamps:

	F32T8	F96T8
Lamps Installed	5398	1040
Fixtures Added × Lamps per fixture	545 × 2 1090	32 × 2 64
Total T8 Lamps	6488	1104

RSH.

SUBJECT PEA LIGHTING	AEP NO 694-1331-001
SURVEY	SHEET OF
DESIGNER O, WARREN	DATE 3 24 95
CHECKER	DATE

ESTIMATED SAVINGS - A/C

ASSUMPTIONS

ECO 4
OCCUPANCY SENSORS

RSH.

SUBJECT Occupancy Sensors	AEP NO (6)
303201	SHEETOF
DESIGNER ANTHUM	DATE 3/20/95
CHECKER	DATE

Summary

Occupancy Sensors

Bared on severning calculations - to maintain paybacks less than 10 yrs. the following is a list of required wo trage to be controlled by space type

7	min.	OPN	%		kwh #	
Type	wettere	HRES	34U/265	$\underline{k}\omega$	Saved Sovied	
Restrooms	60	8760	90	18.8	148,200 \$ 7100	
Breakroom	180	1820	86	14.1	22,100 \$ 1100	
Officer	300	1820	18			_
Torns			·		170,300\$ 8200	
,						

Electricity rate: 6.64/kwh aug (circle demand)
3.04/kbh - energy only
use 4.84/kwh since demand will not
Devay be reduced.

Goot prices

Chiling MHJ. Sensor Power Pach Brackets

56,11 17,54

7.00

Labor est. 1 hr @ 40 x 0.67 x 1.5 = 40/hr.

(1) Means labor index for PrinkSluff (2) Mark ups

RS-H							SHE	EI OI
Construction Cost E	stim	ate						ILE NO.
							DAT	E/20/95
Lighting Energy. Location Pine Bluff arsen	al	4					ESTI	Hutchis
BASIS FOR ESTIMATE A PRE-DESIGN STUDY GENERATIC DES			GN DEVELO	PMENT	FINAL DESI	GN	CHE	CKER
	QUA	NTITY	LA	BOR	MA	TERIAL		TOTAL
SUMMARY	NO. UNITS	UNIT MEAS.	PER UNIT	TOTAL	PER UNIT	ATOT	L.	COST
Ceiling Wetd. Ultra - Sonic Occupancy Sensor Power pack Mainting brackets								
Occupancy Senson	122	ea	31.35	3825	56.11	680		
Power pach	122	ea	-	_	17.54	214	_	
Mainting brackets	122	en	-		7,00	89	54	
0								
Subtotals				3825		98	39	
Means City Labor Cost Index			X0.70	2618		98	39	12,517
ANNUAL REP. COSTS								
5-YR LIFETIME - ASSUME REPLACE 1/5 = 24/YR	24	EA						2,462
12170te 15 - 27/4'C	<u> </u>	1014		1				
					<u> </u>			
	 	 	 			,		
	 							
	-							
	 		<u> </u>					
	 							
	 	-						
	 		-					
Source: Maferials - U.S.	(900	it.	1		#0-1-	//		
Source: Maferials - U.S. Labor - Mei	que	1,14 6	rs/su	um (3)	1.50) hr		
	<u> </u>							
	<u> </u>							
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	1							

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SAUINGS CALC'S

	POOL	ATYPE	#	W/	TOT	*	WATTS	MEETS '	WATTS	TRLD		ROOM	TYPE	#	W/	TOT	#			WATTS C	
BLDG #		RR	FIXT	FIXT			CIRC.	CRIT.	BR	RR	BLDG #	BR	RR	FIXT	FIXT	WATTS	CIRC	CIRC.	CRIT.	BR	RR
10020	1			113	452	1	452	1	452	0	16210	1		2	59	118	1	118	0	118	0
10020	i		2	60	120	1	120	ō	120	0			1	1	83	83	1	83	1	0	83
	î	-	10	60	600	3	200	1	200	0 .		1		2	34	68	1	124	0	124	0
10030	î		2	59	118	1	118	0	118	0				1	56	56			0	0	0
1000	-	1	3	34	102	1	102	1	0	102			1	1	34	34	1	93	1	0	34
		1	1	60	60	1	60	1	0	60				1	59	59			0	0	0
		· 1	1	60	60	1	60	1	0	60	16220	1		2	59	118	1	118	0	118	0
10050	1	_	4	425	1700	1	1700	1	1700	0			1	1	83	83	1	83	1	0	83
20220	1		5	61	305	1	305	1	305	0		1		2	34	68	1	124	0	124	0
	1		4	59	236	1	236	1	236	0				1	56	56	1		0	0	0
	1		6	59	354	1	354	1	354	0			1	1	34	34	1	93	1	0	34
	1		2	59	118	1	118	0	118	0				1	59	59	1		0	0	0
	_	1	2	83	166	2	83	1	0	166	31010			-	•	-	-	-	0	0	0
	1	-	4	59	236	1	236	1	236	0	31080		1	2	59	118	1	118	1	0	118
	_	1	1	59	59	1	59	1	0	59		1		2	61	122	1	122	0	122	0
13010		1	1	40	40	1	115	1	0	40	32030			•	•	•	-	•	0	0	0
			1	75	75			0	0	0	32035	1		6	59	354	2	177	1	177	0
	1		4	59	236	1	236	1	236	0			1	2	59	118	1	118	1	0	118
13020		1	1	75	75	1	75	1	0	75	32060		1	6	105	630	2	315	1	0	630
		1	2	75	150	1	150	1	0	150			1	3	91		1	373	1	0	273
		1	1	75	75	1	75	1	0	75				1	100	_	1		0	0	0
13030		1	1	59	59	1	59	1	0	59	32070	1	1	2	105	210	1	210	1	210	210
	1		1	59	59	1	.59	0	59	0			1	1	105	105	1	105	1	0	105
	1		1	59	59	1	59	0	59	0			1	1	105		1	105	1	0	105
	1		3	110	330	1	330	1	330	0	32090		1	1	59		1	59	1	0	59
	1		.2	110	220	1	220	1	220	0			1	1	59		1	59	1	0	59
		1	1	75	75	1	75	1	0	75		1		8	59		2		1	236	0
13040	1		2	59	118	1	118	0	118	0			1	2	59		1		1	0	118
		1	1	59	59	1	59	1	0	59	32100	1		3	59		1		1	177	0
		1	1	59	59	1	59	1	0	59			1	. 3	59		1		1	0	177
13060		1	1	60	60	1	60	1	0	60			1	3	59		1		1	0	177
13080		1	3	48	144	1	144	1	0	144	32130		1	2	85		1		1	0	170
		1	3	48	144	1	144	1	0	144	32150		1	. 1	59		1		1	0	59
13100		1	1	100	100	1	100	1	0	100			1	. 1	59		1		1	0	59
13110		1	1	60	60	1	60	1	0	60			1	. 1	59		1		1	0	59
													1	. 1	59		1		1		
											33060		1		105		2		1		
													1	_	91		1		1		
														1	100	100	1		0		
											33530				•		-	<u> </u>	0	1 40 1	
TOTALS	16	18	83		6,883	37		28	4,861	1,547	TOTALS	9	23	79		5,619	39		26	1,406	2,730

Notes: BR = breakroom or similar type

RR = restroom or similar type
RR = restroom or similar type
Criteria = for BR controlled watts must be greater than 175 W
= for RR controlled watts must be greater than 58 W

	ROOM	TYPE	#	W/	TOT	#	WATTS	MEETS '	WATTS C	TRLD		ROOM		#	W/	TOT	#	WATTS/		WATTS C	
BLDG #	BR	RR.	FIXT	FIXT	KW	CIRC	CIRC.	CRIT.	BR	RR	BLDG #	BR	RR	FIXT	FIXT	KW_	CIRC	CIRC	CRIT.	BR	RR
34110					-	-	•	0	0	0	53160	1		9	59	531	1	531	1	531	0
34120	1		2	59	118	1	118	0	118	0			1	2	34	68	1	68	1	0	68
34124	•	1	1	34	34	1	152	1	0	34				9	59	531	2	266	0	0	0
		•	2	59	118	-		0	0	0			1	1	34	34	1	34	0	0	34
34140		1	1	105	105	1	105	1	0	105				12	59	706	3	236	0	0	0
37170		1	8	59	472	2	406	1	ò	472			1	2	59	118	1	118	1	0	118
		1	•	85	340	1	700	ō	ň	0	60020	1	-	2	59	118	1	118	0	118	0
			•			1	118	1	ň	118	00000	-	1	1	59	59	1	59	1	0	59
		1	2	59	118			1	6	420			1	ī	59	59	1	59	1	0	59
		1	4	105	420	1	420		0				1	2	59	118	1	118	1	0	118
		1	4	105	420	1	420	1	•	420			1	5	59	295	î	295	î	ŏ	295
34910	1		15	59	885	1	885	1	885	0			1				1	354	i	354	0
	1		7	59	413	1	413	1	413	0	60060	1		6	59	354				334	
	1		4	59	236	2	118	0	118	0			1	1	34	34	1	93	1	•	34
	1		2	59	118	1	118	0	118	0				1	59	59			0	0	0
	1		12	59	708	2	354	1	354	0			1	2	59	118	1	118	1	0	118
	1		2	59	118	1	118	0	118	0	60070		1	2	59	118	1	118	1	0	118
	1		2	59	118	1	118	0	118	0			1	2	59	118	1	118	1	0	118
	•		4	59	236	1	236	1	236	0			1	2	59	118	1	118	1	0	118
	1		1	59	59	1	59	0	59	0			1	1	59	59	1	59	1	0	59
	•		6	59	354	1	354	1	354	0	60090	1		1	59	59	1	59	0	59	0
	1		2	59	118	î	118	ō	118	ŏ		_	1	3	34	102	1	102	1	0	102
0.4070	1		_			1	59	1	0	59			1	2	34	68	1	68	1	0	68
34970		1	1	59	59	_		0		34	60630	1	•	2	59	118	1	118	0	118	0
		1	1	34	34	1	34	•	0	9	0,050	•		2	59	118	î			0	118
	1		1	59	59	1	59	0	59	•			1	1	23	23	i	•	Ô	ŏ	23
44100	1		2	59	118		118	0	118	0			1	_			1		ŏ	Ö	0
		1	13	59	767	1	767	1	0	767			_	3	59	177	-		•	ő	-
		1	6	59	354	2	177	1	0	354	63100		1	2	59	118	1	118		0	118
		1	36	59	2124	4	531	1	0	2124			1	1	59	59	1	59		•	59
		1	8	59	472	2	236	1	0	472			1	4	59	236	1			0	236
		1	6	59	354	1	354	1	0	354		1		2	59	118	1			118	0
		1	5	59	295	1	295	1	0	295	63110	1		2	59	118	1			118	0
		1	2	34	68	1	245	1	0	68		1		2	59	118	. 1			118	•
			3	59	177			0	0	0	63120	1		2	12	24	1	260	1	260	(
		1	4	59	236	1	236	1	0	236				4	59	236			0	0	
		1	3	59	177		177	1	0	177			1	1	59	59	1	59	1	0	59
51420	1	-	3	59	177		177	1	177	0		1		2	59	118	1	118	. 0	118	•
31420	•	1	4	59	236		236	1	0	236	63200	1	1	9	59	531	1	531	. 1	531	531
		1	3	59	177		177	1	Ŏ	177			1	2	59	118	1	118	1	0	118
		1	2	59	118		118	1	ŏ	118			-	2	59	118	1			0	(
		1							o	177	63210	1		10	59	590				690	0
		1	3	59	177		177	1			W210			10	100	100	_	350	0	0	Ċ
	1		2	59	118		118	0	118	0					100	100			0	ŏ	
51430		1	1	75	75		75	1	0	75									0	0	ì
		1	2	23	46		46	0	0	46	monus	- 15	^^	100		6,943	41		25	3,133	2,748
TOTALS	16	23	196		11,926	48		27	3,481	7,338	TOTALS	12	23	123		0,343	41		۵	3,133	29/40

Notes:

Second Marie

BR = breakroom or similar type
RR = restroom or similar type
Criteria = for BR controlled watts must be greater than 175 W
= for RR controlled watts must be greater than 58 W

	2001		#	W/	TOT	#	WATTS/	MEETS	WATTS C	TRID
-	ROOM		-		KW	CIRC	CIRC.	CRIT.	BR	RR
BLDG #	BR	RR	FIXT	FIXT	767		384	1	0	767
63410		1	13	59		2		•	ŏ	590
		1	10	59	590	2	295	•	0	472
		1	8	59	472	2	236	•	0	118
		1	2	59	118	1	118		-	
		1	1	22	22	1	199	1	0	22
			3	59	177			0	0	0
		1	6	59	354	1	354	1	0	354
		1	3	59	177	1	177	1	0	177
	1		7	59	413	1	413	1	413	0
	1		8	59	472	1	472	1	472	0
		1	1	59	59	1	236	1	0	59
			3	59	177			0	0	0
		1	3	59	177	1	177	1	0	177
		1	13	59	767	1	767	1	0	767
		1	1	22	22	1	553	1	0	22
		_	9	59	531			0	0	0
		1	3	59	177	1	177	1	0	177
		ī	7	59	413	1	413	1	0	413
		i	ż	59	354	ī	1	0	0	354
	1	•	Ă	59	236	1	236	1	236	0
	1		1	22	22	1	140	ō	140	0
	•		_		118	_		•	0	0
====		4.4	2	59	6,615	21		16	1,261	4,469
TOTALS	4	14	114		9013	21		10	1,201	7107
GRAND						400		122	14142	10 022
TOTALS	57	101	595		37,986	186		122	14,142	18,832

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Notes: BR = breakroom or similar type

RR = restroom or similar type
RR = restroom or similar type
Criteria = for BR controlled watts must be greater than 175 W
= for RR controlled watts must be greater than 58 W

PINEBLUFF ARSENAL SCREENING CALCULATIONS OCCUPANCY SENSORS FILENAME: OSENS.WQ1

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RESTROOMS

# 2L FIXTS	кw	ENERGY USI	E (KWH)	ANNUAL SA	SIMPLE PAYBACK (YRS)	
ZLFIXIS	0.058	507	50	457	(\$) \$21.93	5.8
1				914	\$43.86	2.9
2	0.116	1,013	100		•	
3	0.174	1,520	149	1,371	\$65.80	1.9
4	0.232	2,027	199	1,828	\$87.73	1.5
5	0.290	2,533	249	2,285	\$109.66	1.2
6	0.348	3,040	299	2,742	\$131.59	1.0

Assumptions:

Cost=

\$128 (Watervliet Arsenal Report)

Operating hrs=
Proposed op hrs =

168 hrs/wk 16.5 hrs/wk

Percent savings = 90%

BREAKROOMS

#		ENERGY USE (KWH)		ANNUAL SA	SIMPLE PAYBACK	
2L FIXTS	KW -	CURR.	PROP'D	(KWH)	(\$)	(YRS)
1	0.058	106	15	90	\$4.34	29.5
2	0.116	211	30	181	\$8.69	14.7
3	0.174	317	45	271	\$13.03	9.8
4	0.232	422	60	362	\$17.37	7.4
5	0.290	528	75	452	\$21.72	5.9
6	0.348	633	90	543	\$26.06	4.9

Assumptions:

Cost=

\$128 (Watervliet Arsenal Report)

Operating hrs=
Proposed op hrs =

35 hrs/wk 5.0 hrs/wk

Percent savings =

86%

OFFICES

#		ENERGY US	E (KWH)	ANNUAL SA	/INGS	SIMPLE PAYBACK
2L FIXTS	KW	CURR.	PROP'D	(KWH)	(\$)	(YRS)
1	0.058	151	124	27	\$1.30	43.7
2	0.116	302	247	54	\$2.61	21.9
3	0.174	452	371	81	\$3.91	14.6
4	0.232	603	495	109	\$5.21	10.9
5	0.290	754	618	136	\$6.51	8.7
6	0.348	905	742	163	\$7.82	7.3

Assumptions:

Cost=

\$57 (wall switch relacement only)

Operating hrs=
Proposed op hrs =

50 hrs/wk 41.0 hrs/wk

Percent savings =

18%

PINEBLUFF ARSENAL SCREENING CALCULATIONS OCCUPANCY SENSORS

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RESTROOMS

# #		ENERGY USE	(KWH)	ANNUAL SA	/INGS	SIMPLE PAYBACK
2L FIXTS	KW	CURR.	PROP'D	(KWH)	(\$)	(YRS)
1	0.058	151	50	101	\$4.85	26.4
2	0.116	302	100	202	\$9.70	13.2
3	0.174	452	149	303	\$14.55	8.8
4	0.232	603	199	404	\$19.40	6.6
5	0,290	754	249	505	\$24.25	5.3
6	0.348	905	299	606	\$29.10	4.4

Assumptions:

Cost=

\$128 (Watervliet Arsenal Report)

Operating hrs=

50 hrs/wk

Proposed op hrs =

16.5 hrs/wk

Percent savings =

67%

BREAKROOMS

#	 	ENERGY USE	(KWH)	ANNUAL SA	/INGS	SIMPLE PAYBACK
2L FIXTS	kw .	CURR.	PROP'D	(KWH)	(\$)	(YRS)
1	0.058	106	15	90	\$4.34	29.5
2	0.116	211	30	181	\$8.69	14.7
3	0.174	317	45	271	\$13.03	9.8
4	0.232	422	60	362	\$17.37	7.4
5	0.290	528	75	452	\$21.72	5.9
6	0.348	633	90	543	\$26.06	4.9

Assumptions:

Cost=

\$128 (Watervliet Arsenal Report)

Operating hrs=

35 hrs/wk

Proposed op hrs =

5.0 hrs/wk

Percent savings =

86%

OFFICES

#	· · · · · · · · · · · · · · · · · · ·	ENERGY USE	(KWH)	ANNUAL SAV	INGS	SIMPLE PAYBACK
2L FIXTS	KW	CURR.	PROP'D	(KWH)	(\$)	(YRS)
1	0.058	151	124	27	\$1.30	43.7
2	0.116	302	247	54	\$2.61	21.9
3	0.174	452	371	81	\$3.91	14.6
4	0.232	603	495	109	\$5.21	10.9
5	0.290	754	618	136	\$6.51	8.7
6	0.348	905	742	163	\$7.82	7.3

Assumptions:

\$57 (wall switch relacement only)

Operating hrs= Proposed op hrs =

50 hrs/wk 41.0 hrs/wk

Percent savings =

18%



SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

OCCUPANCY SENSORS - DETAILED INVENTORY

	OCCUPANCY	つらいろいたっ	- DET	711000	30,000
			W	TOTAL	世
BLDG#	ROOM TYPE	FEIXI	FIRT	Kw	circs
10020	BREAK ROOM	$c \cdot 4$	113		t .
	MANAMA	2	60		1
	BREHR ROOM (230)	10	60		. 3
10030	BREAK ROOM	. 2	59		- l
	RYST ROOM	. 3	34		_ 1 .
	MEN'S ROOM		60		(
s	LADIS'S ROOM	1	60		1
10050	DINING ROOM	4	425	1.	1
	KITCHEN	5	61		i
	Lounge	4	59		t
	Exercise RM	6	59		ı
	LAUNDRY	2	59		t
	RESTRM/SHOWER	2	83		2
	TU ROOM	4	59		1
	LAPKS REST.	1	59		1
13010	RESTROOM	2	40/15		1
15-1-	TRAINING RM	4	59		1
13020	LADIES' RM	i	75		1
	men's em	2	75		1
	REST AM	1	75		1
13030	RKST RM	1	59		1
	LAUNDRY	1	59		1
	DRESSNG RM	1	59		1
	CLASSROOM	3	110		1
	KITCHEN	2	110		1
	REST ROOM	t	75		1
13040	BRSAK RM (9)	2	59		1
	MEN'S RM	1	59		1
	LADIES' RM	1	59		1



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SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

			椞	w_	TOTAL	世	
	BLIGH	ROOM TYPE	FILT	FIXT	KW	CIRC'S	
	13060	RESTRM	1	60		1	
	13080	WOMEN'S RM	3	48		1	
		men's run	3	48		t	
	13100	R25T RW	.1.	100		l	
	13110	REST RM		60			
**			,				
	16210	KITCHEN	Z	59			
	•	REST. RM	1	83		1	
		LAUNDRY	2//	34/56	1	,	
_		RSST RM	1/1	34/59		•	
	16220	KITCHEN	2	<i>5</i> 9		1	
	, , , ,	REST. RM	1	83		t j	
		LAUNDRY	2/1	34/56		1	
		REST, RM	1/1	34/59		1	
	31010	NONE	_	-		_	
	31080	REST RM	Z	59		1	
	0,000	Breakrw	2	61		ı	
	32030	None	_	-		-	
	32035	BREAK RM	6	59		2	
	,,,,,,	RIST RM	2	59		1	
	32060	comp. Rm	6	105		CB's	
	02000	BOILER RM	3/1	91/100		-	
	32010	BREXK RM	2	105		1	
		MEN'S RM	1	105		1	
		LADIES' RM	ŧ	105		1	



.

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

		#	ω	TOTAL	*
BLDG#	ROOM TYPE	FIXT	FIXT	_KW_	CIRC. 9
32090	REST RM	1	59		1
	REST RM	į	59		1
	BRSHK RM	. 6	59		Z
	men's Rm	. 2	59		
32100	BREAK RM	3	59		
1	men's ru	3.	59	e.	- 1 i .
	LADIES' RM	3	59		1
32130	rest rm	2	85		1
32150	rest RM	1	59		1
	REST RM	1	59		1
	rest Rm	1	59		1
	REST RM	1	59		1
33060	comp rm	6	105		CB?
	BOILER RM	3/1	91/100		CB?
33530	NONE	_	_		-
34110	NONE	-	-		_
34120	BRSAK RIM	2	5 9,		l
	rest rm	1/2	•	•	1
34140	WATER CITEM	1,	105		1
	BOILER RM	8/4	59/85		ż
	rest rm	2	59		1
	comp RM 1	4	105		•
	comp rm z	4	105		1
34910	CHANGE RM 2	15	59		1
	CHANGE RM 1	7	59		l



THE REPORT OF THE PROPERTY OF

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	 DATE

		井	_ س	TOTAL	*
BLDG #	Room Type	FIXT	FIXT	KW	circ.'s
	WO BREAK RM	4	. 59		2
	wo copy RM	2	59		1
	TED Lunch Rm	12	59		2;
•	BGU BREAK PM	Z	59		1
	BGU KITCHEN	2	59		4
,	LITIL, BREAK	4	59		1 .
	UTIL KITCHEN	ı	59		1
	ELEC SHP BREAK	6	60		13
	WASH AREA	2	59		1
34970	womi Lounge	1	59		ł
	Men's Rest	1	34		1
	KITCHEN	l	59		1
44100	Coffee RM	Z	59		1
	NEW LOCKER RM	13	59		l
	SHOWER AREA	6	59		Z
	OLD LOCKER RM	36	59		4 ?
	LOCKER RESTRM	8	59		2
	wonien's locker	6	59		1
	WOM!S SHWR #1	5	59		1
	wom's shurtz	2/3	34/59		4
	Work's BATH RM L.	4	sġ		1
	LOUNGE REST.	3	59		1
51420	BREAK RM (34)	3	59		t
	MEN'S CHANGE RM(32) 4	59		ı
	WOM'S CHANGE RM		59		1
	men's Rm.	Z	59		1
	wom.'s RM	3	59		1
	COPIER RM	2	59		ŧ



AND STATE OF THE S

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

s y makeumen e		#	W	TOTAL	*
BLDG #	ROOM TYPE	FIXT	KXT	WATTS	Clecis
51430	RESTROOM	1	75		
• ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	OFFICE 3 Red.	. 2	23	:	,t
53160	BREAK RM	9	59	£	
	WOM'S CHANGE		34/59		3
	MEN'S CHANGE		34/59		4
		2	•		1
60020	BREAK RM	2	59		1
	MEN'S RM	l	59		(
	wom,'s RM	i	59		t
	LOCKER RM 1	2	59		1
	LOCKER RM 2	5	59		1
60060	BREAK RM	6	<i>59</i>		1
	MEN'S RM	1/1	34/59		1
	wom's rm	3	57		1
60070	SHOWER AREA	2	59		ı
	men's locker	2	53		1
	wom's SHWR.	2	59		1
	men's rist.	1	59		1
60090	Kitchen	ŧ	59		1
·	wom.'s Rm	3	34		1
	men's Rm	2	34		l
60630	BREAK RM	2	59		1
-	wom.'s REST.	2	59		1
	MEN. 5 REST.	1/3	23/59		2



And the second second and assembly the second secon

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

		#	W/	TOTAL	*.
BLOG #	ROOM TYPE	FIXT	FIXT	WATTS	CIRC.S
	WOM 'S REST.	2	59		13
	men's rest.	(59		1
	CHANGE RM	4	59		}
	BREAK RM	2	59		. (
63(10	Smoke Brk.	2.	59		1
	BREAK RM	2	59		
63120	CHANGE AREA	2/4	23/59		1
	KEST RM, I	1	57		
	BRZXK RM	2	59		1
63200	BREAK RM	9	59		1
	men's ru	2	59		1
	wom.'s rm	2	59		1
63210	BREAK PM	10/1	59/100		
63410	LOCKER RM 1	13	59		2 ?
	3Howers 1	10	59		2 ?
	LOCKER RMZ	8	59		2
	REST RM 1	2	59		(
	LOCKSK RMZ	. 1/3	22/59		1
	showers 2	6	59		l
	Rest Rm 2	3	59		l
	KITCHEN	7	<i>5</i> 9		1
	BREAK RM	8	59		1
•	men's rm	1/3	59		1
	wom.'s am	3	59		1
	Men's Chambe	13	59 ,		1
	men's Shurs	1/9	22/59		1
	REST RM 5	3	59		1



SUBJECT	AEP NO		
	SHEET	OF	
DESIGNER	DATE		
CHECKER	DATE		

		苹	<u> </u>	TOTAL	土
BLDG#	ROOM TYPE	FIXT	FIXT	WATE	circ.'s
63410	wom's LOCKER	7	59		•
	wom,'s shwes	b	59		t
	wom's rest.	4	59		•
	ICE MACH RM	1/2	22/59	•	· 1

RSH.

SUBJECT	AEP NO		
303001	SHEET OF		
DESIGNER	DATE		
CHECKER	DATE		

Screening Cale's - Occupancy Senson With Ew/o Compact Thursecuts

Estimate payback - assume 90% savings

With compacts =
$$\frac{128}{591 * 0.048 \left(\frac{19.1}{75}\right)} = \frac{17.7 \text{ yrs}}{2}$$

Savings - assume 43 savings

Energy rate · 6.64/kwh aug. (incl demand)

3.04/kwh evergy only

use 4.84/kwh since this ECO may or may

not reduce demand

RSH.

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

Screening Calc's - Compact Fluorescents

assume lights operate 50 hrs/wk

Estimate payback

Annual energy use: 75 watt * 50*52 = 195 kwh (Turand.)

or a67 MBTU

Proposed mergy use = $19.1 \pm 50 \pm 52$ (Composed) 1000

or 0,17 MBTU

Savings = 195-50 = 145 kwh or 6.49 mBtu

Cost Sawing = 145 x 0.066 = \$ 9.6/yr.

Swiple payfoch = #24 = 2.5 yr. payback

Lator - Grainger 1994, p. 776 Phillips SLS 20

ECO 5
INSTALL PHOTOCELLS

RS#H.

SUBJECT		AEP NO
	1.10	SHEETOF
DESIGNER	Authur	date3/24/95
CHECKER		DATE

Photocell Screening Cale's

Sample room - 4 18 w/elee. ballast fixtures
4 fixt @ 58 watts each offen lighting Eco
Many windows on South - facing wall

Current energy use:

watts hrs/yr <u>kwh/gr</u> ~coat 116 2500 290 \$19.14/gr.

every use with photocell controls & dimming ballast assume 40% sowings

watts hvs/gr kwh/yr # cost 175 # 11.55

Savings = 115 kwhlyr, \$7.59/yr.

Coat = 39 *1.5 +202 = \$260

Suiple payboele = $\frac{260}{7.59} = \frac{34}{9}$ years

aug, Elec Cost 66 / kwh

SHEET RSH AE FILE NO. **Construction Cost Estimate** Photocells with Dinning Fluorescent Ballaste Pine Bluff arseval BASIS FOR ESTIMATE

PRE-DESIGN STUDY ☐ DESIGN DEVELOPMENT ☐ FINAL DESIGN SCHEMATIC DESIGN MATERIAL LABOR QUANTITY COST PER UNIT TOTAL TOTAL SUMMARY LINIT MEAS. Dimming Balland - addition 12 Over Stud. Elect. Ballasts 18 ea 65 er 27.50 27.50 65 Photocell Dimming Sensor 27.50 27.50 125 65 Elec. Ballast Controller 1 55 202 Subtotal # 241 Mean Lebor Cety Trolex 202 39 X0770 Source - Vender - Means '34 Elec

The state of the s

RS#H.

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

from Means	mal.	STND ELEC. 34	DMMING ELEC 52	eatio	
	Lab.		29	(,05) () () () () () () () () () (

From Thomas Industries

Controller-up to 50 langs #125 deit cost Photocell - #60 Linear Slide-Dimmer #60



Project Number		

(601) 842-7212

Local L.D Placed Rec'd Date Date	95
Conversed with Exic Syroski of Thomas Industries	
Conversed with Fric Syroski of Thomas Industries Regarding Photocell sensors & dimming ballast controllers	
, o	
Distributor costs:	
Controller (up to solamps) \$ 125	
Distributor costs: Controller (up to solamps) # 125 Photocell # 60	
Luier Slide Dimmer # 60	
Extinated savings 30-40 %	
	<u> </u>

Distribution:

ECO 8
LED EXIT SIGNS

RS&H.

SUBJECT		AEP NO	
	1 1 1	SHEETOF	
DESIGNER	Hutchins	DATE3 & 95	
CHECKER		DATE	

ECM Exit Sign Lawp Replacement Final Fenergy Savings Cale.

Present energy use -(assume 2-15 watt incondencents per sign)

55signs * 2 * 15 watt * 8760hr/yr = 14,454 kwh on 49,3 MBTU

Proposed system energy use (1.8 watts/sign LEDs)

 $\frac{55 \times 1.8 \times 8760}{1000} = 867 \text{ kwh or } 3.0 \text{ MBra}$

Saving: 14,454-867 = 13,587 kwh49.3-3.0 = 46.3 WBTH

Cost Sowing = 13,587 * 0.066 = \$700/yr.

neur							SHE	ET OF
RSH Construction Cost	: ::::::::::::::::::::::::::::::::::::	nate				ļ		FILE NO.
PROJECT PROJECT	-3till	iale					DAT	TE / /
EXIT SIGNS								3/3/95
Location PINEBLUFF ARSSN	KC							Hutchiis
BASIS FOR ESTIMATE DEPRE-DESIGN STUDY	ESIGN	☐ DESIG	SN DEVELO	PMENT []	FINAL DESI	GN	CHE	CKER
	QUA	NTITY	L,A	BOR	MA	TERIAL		TOTAL
SUMMARY	NO. UNITS	UNIT MEAS.	PER UNIT	TOTAL	PER UNIT	TOTAL	-	COST
LED Retrofit	55	ea	2.70	148,50	38-	209	0	
t such					i			
Sultotal				1149		209	o	
Means Labor Index				*0.67				
Sultotal				100		20	70	2190
		 						
Gource: NATIONAL Lighting	(m	aterial abor	(a)			ļ_,		
Source: NATIONAL Lighting	Ch	abor) 1/2	ohr 3	27.50	/hr		
			-			ļ		
	_		<u> </u>		<u> </u>			
					<u> </u>			
		1	1	I .	f	I		ì

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RSH.

SUBJECT		AEP NO	• 1 11
	1 . /	SHEET	_ρ=
DESIGNER	Hutchins	DATE3(3	195
CHECKER		DATE	

Exit Sign Inventory

711		750D	REPO	
73ldg	Description	#	_	Comments
10-020	Afmin -	12		,
10-030	Adrein. (Genturp.)	4		radioactive type
(0-050	Fre HQ	8	2	radioactive type few noted
13010	Com. Serv.	2	Z	and the second s
13020	Lealth Clinic	3	3	e e e e e e e e e e e e e e e e e e e
13030	524 EOD	3	3	
130 40	Counsding	3	3	
13060	Chini e	3	3	
13080	Laboratory	1	(·	
13100	Infirmary	2	2	
13/10	audis-Vis. Fae	t	1	
16210	Barrocks	2	2	
16220	Barrocks	2 2	2	
(60000	30110003			
31010	Electronic Col.	1	1	
31080	II.	7	2	
32030	Inspection Garage	3	_	none noted
32035	Ord, Shop (Motor Pool)	4	-	none noted
32060	Boiler House	Ž	-	none noted
32070	Imprez & Laundry	4	-	none rested
32090	Wavehouse	(0)	-	none rested
32 100	Elec/Comm Let	6	_	none roted vadio active type
	amno Qual Cessur.	5	5	41
32 130 32 150	(1	3	•	none noted
5 2 1 7 0		_		2 722 0001
33060	Boiler House	Z	_	none noted
33530	Fill & Press (Pack out only)		_	none noted
5 - 5 70	1 200 1 1 200 Cl 22 20 Cl 22 2	*		

SUBJECT	`	AEP NO	
		SHEET OF	
DESIGNER		DATE	
CHECKER		DATE	

Exit Sign Iwentory (cont.'d)

	Exa sign a		. 4	(0.0.0,0)
17 11	Description	REQD	Rep t	<i>'</i>
Pala #			<u> </u>	Comments
34110	WP Filling	8		none noted none noted
34120	anno Quel. (S.)	3		none noted
34140	Boiler House	4	_	few noted
34910	admin	26	2	
34970	aduin.	4	-	none noted
44 100	Prod. Field Off.	4	4	
51420	Offices /DMMD	6	4	
51430	Offices /DMMD Engr. admin.	4	_	Mone noted
53160	Chem. admin	6	6	
60020	Security	4	3	
60060	admina.	4	4	C 1 0
60010	Fixed Laurel.	7	2	few noted
60090	TC Admin	4	4	
60630	Warehouse	4	-	none noted
63100	Chem. Field Want.	5	÷	none noted
63110	Chem, Marit	5	2	few noted
63120	11	4	_	none noted
63200		4	3	
63210	Mask Repair	4	4	
63410	Toxic/Conu Chightse	. 17	17	
	TOTAL Radioactive Candidates Refrojits New Signs	225 10 215 55 160	55	
	7000 2000			

RS#H.

SUBJECT	AEP NO	AEP NO							
	SHEET								
DESIGNER	DATE								
CHECKER	DATE								

EXIT SIGNS - Screening Cale.s

Estimate energy use:

- Typical acrit sign has 2-15 watt incandescent lamps
- Energy use = 2 * 15 * 8760 = 263 kwh/yn.
- Every cost = 263 kwh/yr * 0.0622 #/kwh (aug.)
 = #16.30/yr. per sign

Calc. simple paybach on various types

L.E.D Retroft kit - 25 yr warranty

- Energy use = 1.8 watts/face @ 1 face * 8760 = 15.7 kwh/yr.
- Snegg cost = 15.7 * 0.0622 = \$4098/yr.
- Sou ing = 263-15.7 = 247 kwh/yr 16.3-0.98 = \$15.30/yr
- Simple Payback = 41,33/15.3 = 2,7 yrs.
- * 5 min vistallation at \$40,00/hr.

RSH

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

New LiE.D. sign

Compact Fluorescents



SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

Exit Sign Retrofit Options Summary

Type	Paybo Retros	ele (grs)	Project (1)
L.E.D Retrofit Compret Fluor	Z.7 3.7	-	#13,000
New LED Sign (Ind.) New LED Sign (Dir.)	5.6	5.6	#18,700 #22,000

⁽¹⁾ Without markups

CITY COST INDEXES

ſ								ALAB	AMA							ALASKA		A	RIZON	
ŀ		DIVISION	BIR	MINGH	IAM	ни	NTSVIL			MOBILE		MO	NTGOM	ERY		CHORA			HOENI	
-			MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
ر سک		SITE WORK	87.6	92.9	91.7	87.6	93.2	91.9	97.7	87.4	89.8	98.4	86.9	89.6	122.8	142.3	137.8	72.1	99.8	93.4
4		CONCRETE FORMWORK	101.4	68.4	73.4	100.5	65.8	71.1	100.5	70.2	74.8	97.7	62.6	67.9	123.0	127.7	127.0	99.6	84.2	86.6
٦	2	CONCRETE REINFORCEMENT	87.9	72.9	79.4	87.9	68.7	77.1	90.8	67.4	77.6	90.8	72.2	80.3	145.9	159.7	153.7	97.4	78.6	86.8
	033	CAST IN PLACE CONCRETE	79.4	65.6	73.4	79.4	66.5	73.8	77.4	69.1	73.8	77.4	61.4	70.5	181.4	121.5	155.6	92.5	86.2	89.8
1	3	CONCRETE	80.1	70.0	75.0	80.0	68.5	74.2	79.4	71.0	75.2	79.2	65.9	72.5	157.4	130.6	143.9	99.6	83.4	91.5
	4	MASONRY	75.4	66.1	69.6	75.4	60.6	66.3	75.4	67.0	70.2	75.4	46.4	57.5	ŀ	131.6		79.9	82.5	81.5
- 1	5	METALS	96.9	95.0	96.2	96.8	94.3	95.8	95.7	93.7	94.9	95.9	93.5	95.0	ŀ	122.7		96.7	77.7	89.4
- [6	WOOD & PLASTICS	98.4	69.5	83.8	97.3	65.8	81.4	97.3	71.8	84.4	93.7	65.8	79.6	117.7			102.8	83.7	93.1
	7 8	THERMAL & MOISTURE PROTECTION DOORS & WINDOWS	95.1 96.0	63.9 68.9	80.6 89.5	95.1 96.0	62.4 63.7	79.9 88.3	95.1 96.0	65.1 68.6	81.2 89.5	95.0 96.0	57.3 65.9	77.5 88.8		131.4	163.9	112.8	85.7 83.5	100.2 98.6
ŀ	092	LATH, PLASTER & GYPSUM BOARD	103.1	69.1	79.7	103.1	65.3	77.1	103.1	71.5	81.4	103.1	65.3	77.1		126.6		94.2	83.1	86.6
Į	095	ACOUSTICAL TREATMENT & WOOD FLOORING	99.2	69.1	79.7	99.2	65.3	77.3	99.2	71.5	81.3	99.2	65.3	77.3		126.6		94.8	83.1	87.2
1	096	FLOORING & CARPET	96.7	69.1	90.2	96.7	59.7	88.0	104.8	74.9	97.8	104.8	38.7	89.3	1	134.7		85.8	85.5	85.7
1	099	PAINTING & WALL COVERINGS	86.2	64.3	73.7	86.2	63.0	72.9	86.2	73.0	78.6	86.2	71.7	77.9	130.1	127.9	128.8	97.8	75.6	85.1
t	9	FINISHES !	97.3	68.3	82.5	97.3	64.2	80.5	101.2	71.7	86.1	101.2	59.0	79.7	157.9	128.9	143.1	85.7	83.6	. 84.6
Ì	10-14	TOTAL DIV. 10-14	100.0	77.1	95.0	100.0	76.9	95.0	100.0	76.8	94.9	100.0	73.8	94.3	100.0	123.3	105.1	100.0	88.0	97.4
	15	MECHANICAL	90.6	64.1	79.3	90.6	64.9	79.6	97.6	66.3	84.3	97.6	58.5	80.9	1	120.4		99.9	83.3	92.8
Į	16	ELECTRICAL	95.7	64.7	75.3	95.7	72.4	80.4	95.8	68.0	77.5	95.8	55.0	69.0		133.7		110.3	71.8	85.0
١	1-16	WEIGHTED AVERAGE	92.0	72.1	82.5	92.0	72.0	82.4	94.1	73.0	84.0	94.1	64.8	80.0				97.7	82.8	90.5
١		: 		RIZON		<u> </u>	AT 61.	ARKA		71 F S -	ev.	 				LIFORN		· ·	DECL	,
- [DIVISION	MAT.	INST.	TOTAL	MAT.	RT SMI	TH	MAT.	TLE RO		MAT.	NAHEI	TOTAL	MAT.	KERSFII	TOTAL	MAT.	RESNO	TOTAL
-	2	SITE WORK	72.5	99.8	93.5	76.7	83.6	82.0	76.7	83.6	82.0		113.3	106.9		112.5			112.5	
ŀ	031	CONCRETE FORMWORK	100.6	84.0	86.5	96.6	56.8	62.9	93.7	62.6	67.3	98.7	129.1	124.5		128.0			125.1	
١	032	CONCRETE REINFORCEMENT	96.4	78.6	86.3	97.9	65.0	79.3	97.9	62.5	77.9		113.8	112.5		113.1				112.2
ı	033	CAST IN PLACE CONCRETE	94.4	86.1	90.8	83.1	59.0	72.8	83.1	59.1	72.8		126.7							105.4
t	3	CONCRETE	100.4	83.3	91.8	81.7	60.2	70.9	81.5	62.2	71.8		124.2		119.6	123.0	121.3	120.3	120.3	120.3
ı	4	MASONRY	80.0	82.5	81.6	93.1	62.0	73.9	92.5	62.0	73.7	90.2	136.2	118.6	114.8	125.2	121.3	116.0	124.7	121.4
١	5	METALS	97.2	77.6	89.7	99.9	76.8	91.1	99.9	76.1	90.8	113.6	104.3	. 110.0	106.1	102.1	104.6	108.7	103.4	106.7
ı	5	WOOD & PLASTICS	103.8	83.7	93.6	94.5	57.2	75.6	90.6	64.8	77.5	95.5	126.9	111.4	84.4	127.1	106.0	97.0	123.3	110.3
4		THERMAL & MOISTURE PROTECTION	114.0	82.7	99.4	90.0	60.3	76.2	88.8	61.1	75.9	123.8	128.2	125.9	i		109.8	105.5		
٦		DOORS & WINDOWS	102.0	83.5	97.6	97.6	57.8	88.1	97.6	61.7	89.0	—	122.0		105.9				117.0	
-	092	LATH, PLASTER & GYPSUM BOARD	94.6	83.1	86.7	92.7	56.9	68.1	92.7	64.7	73.4	100.2	127.9	119.2		127.9		99.5	124.0	
١	095	ACOUSTICAL TREATMENT & WOOD FLOORING	96.4	83.1	87.8	97.4	56.9	71.2	97.4	64.7	76.2		127.9	134.6	ı		134.6		124.0	
١	096 099	FLOORING & CARPET PAINTING & WALL COVERINGS	85.0 95.6	75.5 74.4	82.8 83.4	122.6	68.5 44.7	109.9 68.4	122.6 100.4	68.5 61.7	109.9 78.2	138.5					123.2 125.0	1	101.5	126.5
	9	FINISHES	85.6	81.4	83.5	104.6	57.6	80.7	104.5	63.9	83.8	129.7	128.9	129.3	131.8			131.7	118.0	
	10-14	TOTAL DIV. 10-14	100.0	88.0	97.4	100.0	68.5	93.1	100.0	69.5	93.3	100.0	124.0			124.3		100.0	142.9	
ı	15	MECHANICAL	99.8	80.5	91.6	100.0	52.9	79.9	100.2	60.3		100.2								
- 1	16	ELECTRICAL	110.9	76.9	88.6	96.5	67.4	77.4	96.5	69.9	79.0	89.6	117.1	107.6	86.7	110.0	102.0	88.7	106.2	100.2
Ì	1-16	WEIGHTED AVERAGE		82.7	90.5	96.3	63.9	80.8	96.2	67.0	82.2						110.6			
											CALIF	ORNIA								
		DIVISION	LO	S ANGE			OXNAR			IVERSI			CRAME			AN DIE			FRANC	
J			MAT.		TOTAL			TOTAL			TOTAL			TOTAL			TOTAL			TOTAL
Į	2	SITE WORK			106.9			106.3			106.9	+		107.2			103.4	 		111.2
-	031	CONCRETE FORMWORK			124.6 113.7			124.2			124.6			121.0	1		118.9			136.6
	032 033	CONCRETE REINFORCEMENT			107.0							102.1					107.0			
ł	3	CAST IN PLACE CONCRETE CONCRETE			122.0															
,	4	MASONRY			128.1							122.0					110.1			
,	5	METALS	1		103.1	1			1			į.			1			1		
	6	WOOD & PLASTICS			109.0			110.5	I		111.4	,		110.2			107.2			
Н	7	THERMAL & MOISTURE PROTECTION	110.9	128.1	118.9	111.4													143.3	124.4
ان	8	DOORS & WINDOWS			108.8															107.3
	092	LATH, PLASTER & GYPSUM BOARD	l		119.4	,			ı			1			ł		113.4	1		
.	095	ACOUSTICAL TREATMENT & WOOD FLOORING			135.1	1			ş.			li .			1			1		
	096	FLOORING & CARPET			128.5	1			t t			ľ			1			1		
1	099 9	PAINTING & WALL COVERINGS FINISHES			126.8			121.7												
ا مرز(14	TOTAL DIV. 10-14			105.0			105.3										+		
	. ,	MECHANICAL	I		111.5										1			1		
1		ELECTRICAL	1		120.3	1			ļ		103.0			95.9	1		91.0	E		
	1-16	WEIGHTED AVERAGE	+		115.2							+						+		129.0

Power Systems and Capacitors 1994 BARE COSTS TOTAL 165 200 | Capacitors INCL OUP TOTAL EQUIP. MAT. LABOR OUTPUT HOURS UNIT CREW 1,100 210 937 157 780 1 Elec 1.40 5.714 Ea. 210 2400 35 KVAR 1,300 1,129 960 169 1.30 6.154 50 KVAR 2450

34、华达中的中国中国的政府的特殊等之

Artin	The Season of th			DAILY	MAN-		T		1994 BAR	COSTS		TOTAL
166	6 Lighting 6 100 Lighting	CRE	EW	OUTPUT		UN	117	MAT.	LABOR	EQUIP.	TOTAL	INCL 0&P
	XIT AND EMERGENCY LIGHTING	- •					\dashv					
	Exit light ceiling or wall mount, incandescent, single face	116	iec	8	1	Εź	a.	50	27.50		77.50	96.50
0080	Double face	-		6.70	1.194		\sqcap	56	33		89	111
0100				3.80	2.105			345	58		403	465
0120	Explosion proof	- -		8	1		\Box	135	27.50		·162.50	191
0150	Fluorescent, single face Double face	١,		6.70	1.194		,	150	33		183	215
0160	Emergency light units, battery operated	- -	Y									
0300	Twin sealed beam light, 25 watt, 6 volt each						ı					
0350 0500	'Lead battery operated	11	Elec	4	2	E	a.	250	55		,305	360
0700	Nickel cadmium battery operated	1		4	2			460	55		. 515	590
0780	Additional remote mount, sealed beam, 25W 6V	一		26.70	.300	Π		20	8.25		28.25	34.50
0790	Twin sealed beam light, 25W 6V each	-	1	26.70	.300	ı		39	8.25		47.25	55.50
0900	Self-contained fluorescent lamp pack		¥	10	.800	Τ.	V	190	22		212	242
0300	den contained indicates			ļ .								
0010	EXTERIOR FIXTURES With lamps										61.50	70
0200	Wall mounted, incandescent, 100 watt	1	Elec	8	l i		Ea.	34	27.50		61.50	79
0400	Quartz, 500 watt	列	Т	5.30	1.509		Ţ	87	41.50		128.50	158
0420	1500 watt	1 1		4.20	1.905	_1_		118	52.50		170.50	209 335
0600	Mercury vapor, 100 watt	# T	Τ	5.30	1.509			245	41.50		286.50	360
0800	Wall pack, mercury vapor, 175 watt	٠		4	2	\perp		250	55		305	
1000	250 watt	T	T	4	2			270	55		325	380
1100	Low pressure sodium, 35 watt	- 1		4	2			200	55		255	305 380
1150	55 watt			4	2	1		270	55	1	325	380 405
1160	High pressure sodium, 70 watt			4	2			290	55		345	430
1170	150 watt			4	2	١		315	55		370 300	355
1180	Metal Halide, 175 watt		\perp	4	2			245	55	<u> </u>		450
1190	250 watt		\forall	4	2		\forall	330	55		385	450
1200	Floodlights with ballast and lamp,					_		<u> </u>				
1400	pole mounted pole not included						_		0,5		371.50	450
1500	Mercury vapor, 250 watt		1 Ele				Ea.	280		<u>'}</u>	420	500
1600	400 watt	- 1		2.2		6		320	1		600	705
1800	1000 watt		_	2	4	_	4	490		,	381.50	455
1950		ļ		2.7			-	300	1	٦	490	580
2000			_	2.2		_	_	390			680	790
2200			ļ	2		- 1		570 605	1	1	724	845
2210	1500 watt		\dashv	1.8			_	460		 	541.50	
2250	Low pressure sodium, 55 watt			2.7			ļ	510		`	620	725
2270			\dashv	2		-		650			760	880
2290	180 watt	-		2		- 1		260	1	in l	341.5	
2340			\dashv	2.7		_		29	_1		376.5	
2360	100 watt			2.7	1		- [30	į.	1	386.5	1 .
2380			_	2.7			+	41		~	515	605
	400 watt	- 1		2.2	ายเสด	do I	1	1 41	J 100	1	1 213	1

Installing Contractor's Overhead & Profit

44.7

Below are the average installing contractor's percentage mark-ups applied to base labor rates to arrive at typical billing rates.

Column A: Labor rates are based on union wages averaged for 30 major U.S. cities. Base rates including fringe benefits are listed hourly and daily. These figures are the sum of the wage rate and employer-paid fringe benefits such as vacation pay, employer-paid health and welfare costs, pension costs, plus appropriate training and industry advancement funds costs.

Column B: Workers' Compensation rates are the national average of state rates established for each trade.

Column C: Column C lists average fixed overhead figures for all trades. Included are Federal and State Unemployment costs set at 7.3%; Social Security Taxes (FICA) set at 7.65%; Builder's Risk Insurance costs set at 0.34%; and Public Liability costs set at 1.55%. All the percentages except those for Social Security Taxes vary from state to state as well as from company to company.

Columns D and E: Percentages in Columns D and E are based on the presumption that the installing contractor has annual billing of \$500,000 and up. Overhead percentages may increase with smaller annual billing. The overhead percentages for any given contractor may vary greatly and depend on a number of factors, such as the contractor's annual volume, engineering and logistical support costs, and staff requirements. The figures for overhead an profit will also vary depending on the type of job, the job location, and the prevailing economic conditions. All factors should be examined very carefully for each job.

Column F: Column F lists the total of Columns B, C, D, and E.

Column G: Column G is Column A (hourly base labor rate) multiplied by the percentage in Column F (O&P percentage).

Column H: Column H is the total of Column A (hourly base labor rate) plus Column G (Total O&P).

Column I: Column I is Column H multiplied by eight hours.

		A B		В	B C D		E	F	G	Н	1		
Abbr.	Trade	Base	Rate ringes Daily	Work- ers' Comp. Ins.	Average Fixed Over- head	Over- head	Profit	Total Overhead & Profit % Amount		Overhead & Profit		Rate with O & P Hourly Dai	
Skwk	Skilled Workers Average (35 trades)	\$24.65	\$197.20	19.0%	16.8%	13.0%	10.0%	58.8%	\$14.50	\$39.15	\$313.20		
Clab	Helpers Average (5 trades) Foreman Average, Inside (\$.50 over trade) Foreman Average, Outside (\$2.00 over trade) Common Building Laborers	18.60 25.15 26.65 19.00	148.80 201.20 213.20 152.00	20.0 19.0 19.0 20.6		11.0 13.0 13.0 11.0		57.8 58.8 58.8 58.4	10.75 14.75 15.65 11.10	29.35 39.90 42.30 30.10	234.80 319.20 338.40 240.80		
Asbe Boil Bric	Asbestos Workers Boilermakers Bricklayers	26.90 28.05 24.55	215.20 224.40 196.40	18.1 11.3 18.2		16.0 16.0 11.0		60.9 54.1 56.0	16.40 15.20 13.75	43.30 43.25 38.30	346.40 346.00 306.40		
Brhe Carp	Bricklayer Helpers Carpenters	19.50 23.80	156.00 190.40	18.2 20.6		11.0 11.0		56.0 58.4	10.90 13.90	30.40 37.70	243.20 301.60		
Cefi Elec Elev Eqhv Eqmd	Cement Finishers Electricians Elevator Constructors Equipment Operators, Crane or Shovel Equipment Operators, Medium Equipment	23.25 27.50 28.15 25.40 24.35	186.00 220.00 225.20 203.20 194.80	12.0 7.6 9.0 12.6 12.6		11.0 16.0 16.0 14.0 14.0		49.8 50.4 51.8 53.4 53.4	11.60 13.85 14.60 13.55 13.00	34.85 41.35 42.75 38.95 37.35	278.80 330.80 342.00 311.60 298.80		
Eqlt Eqol Eqmm Glaz Lath	Equipment Operators, Light Equipment Equipment Operators, Oilers Equipment Operators, Master Mechanics Glaziers Lathers	23.40 20.75 25.95 23.80 23.70	187.20 166.00 207.60 190.40 189.60	12.6 12.6 12.6 15.4 13.3		14.0 14.0 14.0 11.0 11.0		53.4 53.4 53.4 53.2 51.1	12.50 11.10 13.85 12.65 12.10	35.90 31.85 39.80 36.45 35.80	287.20 254.80 318.40 291.60 286.40		
Marb Mill Mstz Pord Psst	Marble Setters Millwrights Mosaic and Terrazzo Workers Painters, Ordinary Painters, Structural Steel	24.65 25.10 24.20 22.20 23.10	197.20 200.80 193.60 177.60 184.80	18.2 12.6 10.4 15.8 60.9		11.0 11.0 11.0 11.0 11.0		56.0 50.4 48.2 53.6 98.7	13.80 12.65 11.65 11.90 22.80	38.45 37.75 35.85 34.10 45.90	307.6 302.0 286.8 272.8 367.2		
Pape Pile Plas Plah Plum	Paper Hangers Pile Drivers Plasterers Plasterer Helpers Plumbers	22.40 23.95 23.30 19.75 28.30	179.20 191.60 186.40 158.00 226.40	15.8 31.5 16.6 16.6 9.6		11.0 16.0 11.0 11.0 16.0		53.6 74.3 54.4 54.4 52.4	12.00 17.80 12.70 10.75 14.85	34.40 41.75 36.00 30.50 43.15	275.2 334.0 288.0 244.0 345.2		
Rodm Rofc Rots Rohe Shee	Rodmen (Reinforcing) Roofers, Composition Roofers, Tile and Slate Roofer Helpers (Composition) Sheet Metal Workers	26.40 21.55 21.60 15.35 27.35	211.20 172.40 172.80 122.80 218.80	36.2 34.2 34.2 34.2 13.2		14.0 11.0 11.0 11.0 16.0		77.0 72.0 72.0 72.0 72.0 56.0	20.35 15.50 15.55 11.05 15.30	46.75 37.05 37.15 26.40 42.65	374.0 296.4 297.2 211.2 341.2		
Spri Stpi Ston Sswk Tilf	Sprinkler Installers Steamfitters or Pipefitters Stone Masons Structural Steel Workers Tile Layers (Floor)	30.35 28.30 24.70 26.50 24.00	242.80 226.40 197.60 212.00 192.00	9.9 9.6 18.2 42.7 10.4		16.0 16.0 11.0 14.0 11.0		52.7 52.4 56.0 83.5 48.2	16.00 14.85 13.85 22.15 11.55	46.35 43.15 38.55 48.65 35.55	370.8 345.2 308.4 389.2 284.4		
Tilh Trlt Trhv Sswl Wrck	Tile Layer Helpers Truck Drivers, Light Truck Drivers, Heavy Welders, Structural Steel *Wrecking	19.25 19.40 19.70 26.50 19.00	154.00 155.20 157.60 212.00 152.00	10.4 16.3 16.3 42.7 42.5	•	11.0 11.0 11.0 14.0 11.0	•	48.2 54.1 54.1 83.5 80.3	9.30 10.50 10.65 22.15 15.25	28.55 29.90 30.35 48.65 34.25	228.4 239.2 242.8 389.2 274.0		

^{*}Not included in Averages

CB94

APPENDIX D
UTILITY BILL ANALYSIS

RSH

SUBJECT	AEP NO
	SHEET OF
DESIGNER_ HUTCHIS	DATE 3/6/95
CHECKER	DATE

Wility Bill audyris Summary

Summer

Summer

Wenter

Demand Evergy Total Aug.

14.13/kw # 0.0343/kwh # 0.0846/kwh

17.58/kw # 0.0258/kwh # 0.0475/kwh

Demand Energy Total alig

13.36 /kw # 0.0301/kwh # 0.0661/kwh

annal Aug

\$ 0.0661/ x hwh = \$19.37/MBtu

1995 RATES - PBA

FUECT 0.0687/kWh \$ 20.13 /MBtu

Source: ARMY FOWER PROCUREMENT

RSH.

SUBJECT	AEP NO	
	SHEET	OF
DESIGNER	DATE	
CHECKER	DATE	

Prie Buff arsenal - Utility Bill auslysin

Jan 95 - A & B Sabstation - Writer Rafe (Oct-May)

Evergy use = 1,352,736 kwh

973 kw 2410 kw 2328 kw 1018 kw

17, 157 Demand charge 2328 hW * 7,37 Decon. west 8 616 kw + 0.27 166 651 Decom. wat @ 1712 kw + 0.38 1328 kw + 6.74 15,691 M 35 2328 kw * (0,89) = (2072)TAX AOJ. 489 2328 × 0.21 ECDR *(0.64) (1490) 2328 RET ON EQ. 7328 *(0.24) x(0,19) = x(n (559) DEPR RATE ADJ. (117) 616 M 33A *(0.37) =(633) 1712 M 33A 29,283

Aug, demand charge = #29,283 ÷ 2328kw = \$12.58/kw

Fuel Adj. Ray. Mand. Cost MASAdj. 1,352,136 * 0.03242 = #43,856 1,352,136 * (0.006375) = (8624) 1,352,136 * (0.00019 = 257) 1,352,736 * (0.000404) = (547)

Aug. energy charge = 34,942 : 1,352,736 = 0.0258 #/kwh

Aug, total cheg = #0.0475 (29,283+34,942) = #0.0475 1,352,736 Kwh

RSH

SUBJECT	AEP NO
	SHEET OF
DESIGNER	DATE
CHECKER	DATE

Utility Bill Analysis

august 94 · A & B Substation - Summer Raile (Jun-Sep) Energy use = 1,136,528 kwh Demond = 4042kw

Demond

		#
Demand Charge =	4042 x 8.87 =	# 35, 863
Decom.	4042 x 0,27	1091
Grand Gulf	4042 × 6.74	27, 242
Tax Ada	4042*(0.89)	(3597)
ECDR	4042* 0.21	848
ROE	4042* (0.64)	(2586)
Depri Rate Adj.	4042+(0.24)	(970)
GC Rec. Credit	4042 x (0,19)	y <u>(768)</u>
	. te	\$57,113
Aug. Demond charge = 3	\$57,113 = \$14.13/KW	•
0	1/2/12/16 / KW	

4042 KW

Energy Energy Charge 1,136,528 × 0.0389 = #44,210
Fuel (idj. "
$$\star$$
 (0.00471) = (5354)
Reg Marel Cost " \star 0.00019 = 216
M & S Adj. " \star (0.00008) $\frac{(96)}{38,976}$

Aug. Energy Chg = #38,976 _ #0.0343/kwh aug. total Chg = (57,113+38,976) = 1,136,528 = #0.0846/kwh



ARMAMENT, MUNITIONS AND CHEMICAL

COMMAND

PINE BLUFF ARSENAL PINE BLUFF, ARKANSAS

DATE: 6 Mar 95
FAX: 904-279-2489
NO. OF PGS. 9 (including cover sheet)

PRECEDENCE: Routine

REMARKS:

I hope the bills will be readable -- My copy is not that good. Please call if it isn't clear enough.

FROM: Nancy Rimmer

FAX: 501-540-325/

PHONE: 501- \$ 540-3312

RELEASER'S SIGNATURE: Manay Ryimmer

LOG NO.____

Arsaval A+B

PAGE 1 of 2
Nancy Runner
(501) 540-3312

ARKANSAS POWER & LIGHT COMPANY LARGE POWER SERVICE SILL CALCULATION SHEET

rate code - LP1, LP2, LP2, LP4, LP6"

	BILLING	INFORMATION:			
	Account Fuel Adj	No	VAALL	KW	
		43 Factor (\$/KWH)			
	_	NTHLY BILL CALCULATIO	M: <u>Summer Period</u> ** \$358,85	Other Period \$368.88	
	A.	CUSTOMER CHARGE:			
Pius Pius	B.	DEMAND CHARGE:	KW @ \$14.00 .	KW @ \$10-46 £.65 KWH @ \$0.01251	
Plus	C.	ENERGY CHARGE:	KWH @ \$0.03909 .	KWII @ Strassor.	
Plus	D.	FUEL ADJUSTMENT (MZ7)			
Plus	€.	MO SALE ADJUST (M43)			
Minus	F,	NO CONTROL SWITCH (N ()(applicable)	(Refer to t for determ	he back of this sheet ninstion of M22 credit)	
Plus	a.	ACT & ADJUSTMENT (M4			
Plus	H.	Franchise Tax (M25)		D+E-F+G) x Franchise 1	
Plus	i.	SALES TAX	(A+B+C+	D+&F+G+H) x Sales To	ex Rate
Equ	1 4 J.	TOTAL BILL		D+E-F+G+H+I)	ووه ماريات در م
	1 00 000	di manag Badad (S	: LPZ, LP3, LP4, & LP5 me ce Back of Sheet) ce Back of Sheet)	ika adjustments per Rati	ecnaque mi.

January, 1994 Effective 01/01/94 FOR ASSISTANCE CONTACTO RATE ADMINISTRATION TCRY-24, L. R., 750-5581 Arsenal C

RATE APPLICATION MANUAL SECTION 825 PAGE 1 of 2

The state of the s

ARKANSAS POWER & LIGHT COMPANY LARGE POWER SERVICE BILL CALCULATION SHEET

RATE CODE - LP1, LP2, LF3, LP4, LP6"

		G INFORMATION:						
	Account No. Fuel Adjustment Factor (\$/KWH) Rider M43 Factor (\$/KWH) Franchise Tex Rate (%)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	KWH		KW		
				Salos Tax i	র রঃ (%)			
	NETM	ONTHLY BILL GALGULA	TION:	<u> Summer Period</u> **		Other Pariod		
	A	CUSTOMER CHARGE:		\$366.88		\$364.85		
Plus	B.	DEMAND CHARGE:			5.19	_KW @ \$4344	•7	
Plus	C.	ENERGY CHARGE:		_ KWH 🏚 🕏),03909	_ KWH @ \$0.0	3261	
Plus	D.	FUEL ADJUSTMENT (M	27)		#KV/i-i/Moni	h x \$/KWH)		
Plus	E.	MO SALE ADJUST (M43	I)	(me l/N/W	in x \$/KVVH)		
Minus	P.	A/C CONTROL SWITCH (if applicable)	(M22)		Refer to the for determin	back of this shee ation of M22 cre	et dit)	
Pius	G.	ACT 6 ADJUSTMENT (N	/44)		(A+B+C+D+	E-F) × 0.0007731	ł	
Plus	н.	FRANCHISE TAX (M25)		1	(A+B+C+D+	E-F+G) x Franch	iso Ta	x Râte
Plus	1.	SALES TAX			(A+B+C+D+	E-F+G+H) x Sak	es Tax	Rale
Equals	J.	TOTAL BILL				E-F+G+H+()		
	t in	NOTE: For Rate Cod Summer Period M22 Credit	(See B	, LP3, LP4, 4 mck of Sheet) ack of Sheet)		adjustments per i	Rate S	chedule M1.

January, 1994 Effective 01/01/94

FOR ASSISTANCE CONTACT: RATE ADMINISTRATION TCBY-28, L. R., 750-5583

Electrical Data for Lighting Survey

Mallit we

THE BOX.

- 1. Winter rates applied from October thru May.
- 2. Summer rates applied from June thru Sept.
- Demand charge per maximum demand KW per any 15 minute period during month. ٠.

Summer Rate (\$/KW)	\$8.87	8.87 7.93
Winter Rate (S/KW)	\$7.37 6.43	7.37
Year	1994	1993 1993
Sub-Station	A&B C	AGB

Average cost per KW (Substations A&B, and C average) FUEL ADJUSTMENT COST (\$/KW)

1990	FUEL	ADA	COST	.0036	.0044	.0041	.0043	.0043	.0045	.0034	.0027	.0053
13			S/KW	.0520	.0503	.0510	.0519	.0519	.0642	.0493	.0728	.0526
1991	FUEL	ADJ	COST	.0061	. 0059	0900-	9900	•0055	.0039	-,0026	. 9042	.0049
61			S/KW	.0541	.0542	.0464	.0472	8090	.0560	.0568	.0563	.0520
~	FUEL	ADJ	COST	.0067	.0076	8900.	8900.	.0017	.0035	.0050	.0038	0900.
1992			KX7S	.0458	.0463	.0462	.0477	.0639	.0612	.0657	.0628	.0551
1	FUEL	ADJ	COST	9900.	.0075	.0071	.0083	.0054	.0046	.0037	.0017	.0036
1993	4		S/KW	.0492 .0066	.0501	.0535	.0503	.0700	.0625	.0680	,0631	.0607
707	PUET.	ADJ	COST	.0061	.0093	.0077	.0074					
0	4		Month \$/KW	.0495	.0495	.0482	.0509					
			Month	Jan	Feb	Mar	Apr	Kay	Jan	Jul	Aug	Sep

0ct Dec Nov

.0548 .0061 .0560 .0049 .0535 .0053 .0530 .0076 .0546 .0051 .0542 .0083 .0426 .0055 .0350 .0471 .0063 .0067 .0515 .0508 .0546 .0041 .0056 .0049

PINE BLUFF ARSENAL KVA Substations A & B

	1994	1993	1992	1991
Jan	1929.7	1577.5	1633.9	4407.9
Feb	2061.7	1799.6	1609.3	4120.2
Mar	2061.7	1708.7	1748.8	1968.9
	1408.4	1762.2	2385.2	1883.0
Apr	1360.0	1993.2	2211.9	2663.5
May		2828.9	2686.6	2302.6
Jun	1629.6	2719.3	2698.7	2445.2
Jul			2424.4	2339.1
Ynd		2719.3		2341.7
Sep		3336.5	2443.5	
oct		2531.5	1808.6	1734.9
Nov		1894.6	1892.4	1615.6
Dec		1815.3	1477.4	1561.0

YEARLY BUILDING REPORT FOR ELECTRICITY USAGE

The second of th

6.224/lew/a

BUILDÍNG	DATE	кwн	COST
10-020 Admin	OCT 92 NOV 92 DEC 92 JAN 93 FEB 93	13,760 7,200 11,840 10,880 12,800	\$855.87 \$447.84 \$736.45 \$676.74 \$796.16 \$726.50
Assigned: MPCAO (Adj)	MAR 93 APR 93 MAY 93 JUN 93	11,680 17,760 15,360 21,440	\$1,104.67 \$955.39 \$1,333.57
SF:42,568	JUL 93 AUG 93 SEP 93	22,400 28,000 21,920	\$1,393.28 \$1,741.60 \$1,363.42
	TOTAL	195,040	\$12,131.49
10-040 Signal	OCT 92 NOV 92 DEC 92 JAN 93	9,629 8,527 9,113 7,474	\$598.92 \$530.38 \$566.83 \$464.88
Assigned: DOIM	FEB 93 MAR 93 APR 93 MAY 93 JUN 93 JUL 93	8,205 7,871 9,891 8,815 10,584 10,627	\$510.35 \$489.58 \$615.22 \$548.29 \$658.32 \$661.00
SF: 3,188	AUG 93 SEP 93	12,466 11,183	\$775.39 \$695.58
- . •	TOTAL	114,385	\$7,114.75
10-050 Fire Hq	OCT 92 NOV 92 DEC 92 JAN 93 FEB 93	7,280 5,840 6,480 5,520 5,920	\$452.82 \$363.25 \$403.06 \$343.34 \$368.22
Assigned: FP&P Div	MAR 93 APR 93 MAY 93 JUN 93 JUL 93 AUG 93	5,520 6,800 6,720 9,520 11,040 12,800	\$343.34 \$422.96 \$417.98 \$592.14 \$686.69 \$796.16
SF: 3,188	SEP 93	10,000	\$622.00 \$5,811.97
	LOIAL	55,440	, C. L. D. /